AUSTRALIAN COTTON COMPARATIVE ANALYSIS

2018 CROP

CRDC
COTTON RESEARCH AND DEVELOPMENT CORPORATION

BOYCE
CHARTERED ACCOUNTANTS

Knowledge. Insight. Experience.

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Images courtesy of Cotton Australia

Dear Grower,

We are pleased to present the 2018 Australian Cotton Comparative Analysis.

The cotton industry continues to reinvest in Best Management Practices, sustainability programs and in the communities in which it operates. An example of this is the 2018 Australian Cotton Comparative Analysis.

The Comparative Analysis is a joint initiative between the Cotton Research & Development Corporation (CRDC) and Boyce Chartered Accountants to produce the industry benchmark for the economics of cotton growing in Australia.

The sample of participants this year again captures a representation from the different cotton-growing valleys. It is always our aim to increase the sample size of the analysis. If you are a grower and find this report instructive but do not currently participate in the analysis, we would welcome your involvement. Participation is free, and while we know that involvement does take some effort, we believe that this effort leads to a greater understanding of the numbers that drive your business with respect to other growers and trends within the industry.

This year is the third year we have analysed the per bale figures in this analysis. As the industry continues to evolve, and as other studies on industry practices are finalised, we will continue to compare the results from those studies and these figures with a view to providing better information for the industry.

The 2018 Australian Cotton Comparative Analysis has been posted on the websites of Boyce Chartered Accountants (www.boyceca.com) and CRDC (www.crdc.com.au). We welcome use of the figures contained in this report, however, it should be noted that the report or any part of it may not be published or reproduced without authorisation.

We look forward to discussing the report with you.

Simon Sellars
Director
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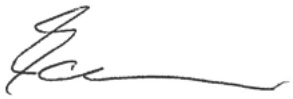
Wagga Wagga



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2018 AUSTRALIAN COTTON COMPARATIVE ANALYSIS
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1 Introduction

INTRODUCTION

The 2018 Australian Cotton Comparative Analysis (ACCA) is the fourteenth report produced by Boyce Chartered Accountants in conjunction with the Cotton Research & Development Corporation (CRDC). From 1986 to 2004 the report was compiled independently by Boyce. Having over 30 years of data in the same format for any industry is a valuable resource.

In this report, we present an analytical review of the 2018 results, a comparison with prior years, and comments on emerging trends.

The primary purpose of the ACCA is to show the income and expenses associated with growing fully irrigated cotton on a per hectare and per bale basis. To get the most out of this report, the reader should be fully aware of the methodology and in particular, understand the following:

- The analysis does not necessarily show the health of the cotton industry. Where a cotton grower grew skip-row cotton or solid cotton that did not receive full water or grew no fully irrigated cotton at all, those resulting figures are excluded from the analysis. In most, if not all cases, these alternate crops would have returned a reduced profit per hectare in comparison to growing fully irrigated cotton. Therefore, although the grower may have made a healthy per hectare profit on the hectares of fully irrigated solid cotton grown, the net profit of the total farm would have been significantly less than if fully irrigated cotton was grown across the full area, allowing for usual rotation practice.
- The figures show the average results of participants in the sample. For example, assume there were only two participants in the sample who grew the same area of irrigated cotton. If one uses contractors for picking and the other owns their pickers, the figure for contract picking will be approximately 50% of the market rate. Similarly, the figures on a per line basis for expenses such as depreciation, repairs & maintenance, wages etc. will all be less than market rates. With this knowledge, users of this information can get additional information from this analysis.
- If there is a significant change in per line figures, this may not necessarily be due to a price increase. Line items can be made up of price, the frequency of operation and the volume of input per operation. So where there has been an increase in, for example, seed this could be due to price, the number of seeds per metre planted (volume) or the number of plantings, or a combination of all three.
- Where a crop has not been picked due to flooding or some other disaster other than hail, the expenses relating to the affected area have been excluded from the sample.

So care should be taken when using the results from this analysis. Understanding the basis on which the analysis is constructed is the key to getting the most out of this study.

1.1 OUR SAMPLE

The analysis includes the results for farmers who were able to plant, grow and pick their crop using close to standard irrigation practices. This year the total number of hectares in the sample increased due to more participants and the availability of water throughout many of the cotton growing areas of Australia.

The average hectares planted per participant decreased from 1,207 hectares in 2017 to 1,141 hectares in 2018. This is due to new participants in the analysis growing smaller hectares and also reflective of new entrants into the industry.

The total number of bales in the sample was 687,707 (up from 498,000 in 2017), which represented approximately 16% of Australian irrigated cotton production and 15% of total Australian cotton production (up from 13% of total Australian cotton production in 2017). Australia's total number of bales produced increased by 20% from 3,874,675 in 2017 to an estimated 4,658,740 in 2018 (Cotton Australia statistics).

Marketing is an important part of management and can make a significant contribution to the profitability of a cotton farm. For this reason, participants' overall results in the 'Comparison of average income and expense items' are not normalised with respect to income. While recognising marketing as an important part of management, our study does not include or exclude growers from the Top 20% Farmers based on marketing decisions with respect to currency, lint and basis. Our view is that growers should be classified into (or out of) this group based on yield and cost only, as many growers review their operation against the Top 20% Farmers to look for areas of improvement. We have therefore selected the top 20% substituting $542 (the average 2018 net price for all participants) for the average net price that the individual grower actually received.

It should be noted that although the average price of $542 was used to select the participants in the Top 20% Farmers, the growers' actual sales figures are reported in this analysis.

1.2 THE NEED TO BENCHMARK

Financial analysis using comparative statistics helps farmers identify relative strengths and weaknesses; accompanying budgets and long term business plans will then focus on ways to overcome weaknesses and build on strengths. In other words, this Comparative Analysis is a management tool to implement change and to identify where effort should be directed on a day to day basis.

This analysis does not provide all the answers - it is a benchmark or a standard to strive for. It is up to management to develop and implement specific action plans based on improved knowledge to set and achieve new goals.

The reliable, independent figures in the Comparative Analysis provide the starting point for farmers to develop "best practice".

This analysis has been running since 1986 so if growers or other interested parties require more long term data and analysis, please contact us to discuss the results and to clarify any queries so that we all develop a deeper understanding of the industry.

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Report on the 2018 Crop

2.1 THE 2018 CROP – ANALYTICAL REVIEW

2.1.1 INTRODUCTION

Highlight numbers for the Average Farmers and Top 20% Farmers are as follows:

Average Farmers;

- Yield (11.82 bales per hectare) increased an average of 1.23 bales from 10.59 bales per hectare in 2017. This is 0.18 bales per hectare more than the five year average of 11.64.
- Price per bale was $542 which is $15 higher than last year and $29 above the five year average of $513.
- Operating costs were higher but still below the five year average. 2018 costs per hectare were $3,896 compared to $3,722 for 2017 and $4,080 for the five year average.
- Water, fuel, wages, fertiliser and general overheads were key cost items to increase while chemicals and application were notably down in 2018.
- Total income was $6,409 per hectare for 2018. This was up $834 per hectare from 2017 and up $413 on the five year average.

For the Average Farmers, this was the highest net profit per hectare seen in the history of this report. Similar to the prior three years, 2018 was another great season, with net profit per hectare of $2,234 being higher than last years' $1,557 and higher than the five year average of $1,621. Based on these figures, a yield of 7.77 bales per hectare was required to cover total expenses, a figure which is well below the five year average of 8.59 bales.

Top 20% Farmers;

- Yield (13.33 bales per hectare), was an increase of 2.98 bales per hectare from the previous year (2017 was 11.35 bales per hectare) and slightly above the five year average of 12.85 bales per hectare.
- Price per bale was $550, which is $1 up from 2017 and $22 above the five year average.
- Interestingly, operating costs for this group fell, from 2017 to 2018, by $69 to $3,378, which is $337 below the five year average. The main contributors to the 2018 result being $337 below the five year average were R & M, Depreciation and Wages.
- This group grew more cotton (1.51 bales per hectare) than the Average Farmers and did it more cheaply (by $518 per hectare).
- The main contributors to the $518 variance (savings made by the Top 20% Farmers) in operating expenses per hectare were: R & M ($176) Water charges and purchases ($155), Wages ($131), Depreciation ($93) and Fuel and Oil ($77). Out of interest, to compensate for these savings, the Top 20% Farmers spent more than the Average Farmers, on a per hectare basis, on chemicals (all), consultants, fertiliser and insurance.

It was an unprecedented season for the Top 20% Farmers, with a profit of $3,821 per hectare. This was well above 2017 ($2,592/ha) and the five year average of $2,901 per hectare.

The fact that, in 2018, the Top 20% Farmers grew more cotton per hectare at a lower cost per hectare highlights the opportunity for many growers.

Historically, and again it is confirmed in 2018, that being in the Top 20% Farmers is predominately driven by yield, so in our view, that's not a bad place to start. 'How can I improve yield as cheaply as possible?' should be a well-considered question, and one which has been raised before.

In our view, the main focus for growers has to be the low cost options that have the biggest impact on the bottom line. While this may be self-evident, it deserves some serious structured and documented thought by the industry.

The industry continues to be an early adopter of technology. At the industry level, this is a tremendous positive as it shows the innovation that has driven the industry. However, from a profit perspective, individual growers need to know where their profit comes from, as the early adoption of technology at the micro-level is not always conducive with maximising profit. We believe each technology adoption needs to be framed initially around ongoing cost minimisation or yield maximisation, and secondly from the point of view of the initial capital cost and other benefits. This equation needs to be kept in perspective, but the answer could be different for each grower.

An example of the adoption of one aspect of technology is around Bollgard and Roundup ready. The cost of all chemicals (and their application) was $97 per hectare below the 2017 figures but only $32 per hectare below the 5 year average. The compensation, to a small degree, was the increase in Licence fees (Bollgard and Roundup ready) by $13 per hectare on the 2017 result and $19 per hectare above the 5 year average. At face value, this would indicate that there has been a decrease in expenses through the adoption of this technology.

While growers continue to effectively 'outsource' or 'buy' products and expertise from various providers, growers must continue to monitor the profit motive. From a classic economical point of view, a farming operation with everything outsourced would technically make no profit!

To analyse the industry over 30 years in the same format provides valuable information with which to consider where the future will take the industry. We recommend that growers spend some time thinking about where the industry is headed in an attempt to be ahead of the game in the two main areas that impact profit – maximising yields and ensuring costs are at a minimum.

The ability to take advantage of a solid lint price continues to be a big issue for the industry. The lack of stored water and the way that impacts on the ability of a grower to achieve a good price has been addressed in previous analyses. As discussed at the grower meetings we attend, the ability to lock in a price for lint when water is available has been an important factor in underpinning the profit of the industry. If the price per bale continues to fluctuate but not grow over time in real terms, then it follows that the ability to participate when prices are high will become more important.

This year we have again included trend lines in some of the graphs presented. Some interesting trends from 1997 to 2018 continue to emerge, including:

- The value per bale continues to increase slightly, although we have seen no real growth over the long term.
- Despite no real long term growth in price, outliers in price exist ($429 in 2013 compared to $542 in 2018).
- The long term trendline is that costs per hectare continue to rise. However, there has been a considerable drop in expenses per hectare over the last two years of the analysis. The 2018 cost per hectare has been more in line with the 2013 and 2014 years.
- Yield per hectare continues to trend upward but are not at the same levels seen in the 2015 and 2016 seasons. The term 'statistical yield' indicates a fixed ceiling beyond which yield cannot exceed. Without further plant development, this would be a worrying prospect, especially in light of cost increases. Continuing development means that statistical yield is a moving target, but it's important to note that we are tending towards a maximum yield, whereas there do not seem to be similar cost constraints.
- Operating profit continues to trend positively for both Average Farmers and Top 20% Farmers with unprecedented profit highs for the 2018 crop. However, the industry must be realistic that profits will vary based on seasonal conditions.

The two statistics that are relatively static are price per bale and increasing costs per unit of inputs. The increased profits for the industry are coming from efficiency (less quantity of inputs) and increased yield.

Five Year Average (2014 to 2018)

We believe the message of the average for a number of years is important. In this report, we have used the average of this season and the past four seasons – five years in total.

What we are attempting to show by the five year average is the income and expenses on a per hectare basis in a "normal" year.

2.1.2 KEY PERFORMANCE INDICATORS

2.1.2.1 YIELD (BALES / HA)

	AVERAGE	TOP 20%	DIFF
2018	11.82	13.33	1.51
2017	10.59	11.35	0.76
2016	12.95	13.69	0.74
2015	12.59	14.31	1.72
2014	10.24	11.55	1.31
*** Five year average**	**11.64**	**12.85**	**1.21**

What is your water use efficiency in terms of bales per megalitre?
Do your employees know your yield expectations?
Have you reviewed your strategies depending on the availability of water?
What was your maximum yield in a field and do you know why the other fields or areas did not perform as well?

2.1.2.2 VALUE ($ / BALE)

	AVERAGE	TOP 20%	DIFF
2018	$542	$550	$8
2017	$527	$549	$22
2016	$507	$518	$11
2015	$517	$538	$21
2014	$473	$485	$12
*** Five year average**	**$513**	**$528**	**$15**

- The cash price was between $480 and $570 per bale until February and continued to rise in March and April. By the end of May, prices had reached $625.
- The average cash price for the growing period was just on $551 per bale. (Data provided by Independent Commodity Management)

What strategies do you have in place to combat adverse currency and futures?
How much cotton have you sold for the 2018 and 2019 crops?
How do you forward market when there is some water security?
Do you understand all the strategies that are available?
Has the worry and risk of your marketing strategy been worth the benefit you have gained?
Have we seen a change in the way cotton is marketed?

2.1.2.3 OPERATING COSTS ($ / HA)

	AVERAGE	TOP 20%	DIFF
2018	$3,896	$3,378	$518
2017	$3,722	$3,447	$275
2016	$4,500	$3,923	$577
2015	$4,363	$4,062	$301
2014	$3,918	$3,766	$152
*** Five year average**	**$4,080**	**$3,715**	**$365**

- The 5 year average figures for both the Average Farmers and Top 20% Farmers have not changed between the 2017 report and the 2018 report (last year the five year average for the Average Farmers was $4,062 per hectare and Top 20% Farmers was $3,714 per hectare). What is evident is that the Top 20% Farmers 2018 result is significantly below the five year average.
- The main contributors to the $365 five year variance (savings made by the Top 20% Farmers) in operating expenses per hectare were: Water charges and purchases ($140), Wages ($100), Depreciation ($52), Fuel and Oil ($50), R & M ($50) and Other farm overheads ($58). Out of interest, to compensate for these savings, the Top 20% Farmers spent more than the Average Farmers, on a per hectare basis, on chemicals (all), consultants, fertiliser and insurance.
- It's interesting to note that the savings noted in the last point are primarily related to a) ownership of equipment, b) plant in general and c) water. We will continue to monitor these differences between the two groups; however, this is a similar result to the last couple of years in terms of key differences.
- The average operating costs for the "Low Cost Farmers" were $3,062 compared to $3,263/ha in 2017.

What steps can you take in a "normal year" to keep your operating costs below $3,700/ha?
Are you monitoring the costs which are much higher than the average?
Have you investigated group purchasing arrangements?
Does your strategy in relation to fixed costs need to change to minimise losses in low water years?
Should you be using more contractors so that in low water years you don't have high fixed costs?

2.1.2.4 COST OF PRODUCTION ($ / BALE)

	AVERAGE	TOP 20%	DIFF
2018	$330	$254	$76
2017	$351	$303	$48
2016	$347	$286	$61
2015	$347	$284	$63
2014	$382	$326	$56
*** Five year average**	**$352**	**$291**	**$61**

- A low cost of production per bale (driven by higher yields) is the most significant feature of the Top 20% Farmers. This is achieved by producing more bales of cotton per hectare and from a lower per hectare cost base. Both of these factors contribute to this statistic.
- Long-term average figures for the top producers prove that it is possible to achieve a benchmark cost of production in the $280 to $320/ bale range in a "normal" year.
- With the extra yield of 0.25 - 0.50 bales per hectare, per hectare costs change very little.

Are you continually focusing on your cost of production per bale?
What are the Top 20% Farmers doing differently?

2.1.2.5 COMPARISON OF VALLEYS

	Gwydir	Barwon/McIntyre	Macquarie	Namoi	Murrumbidgee
Gross income ($/ha)	$6,414	$6,091	$6,763	$7,015	$6,110
Operating costs ($/ha)	$3,666	$3,297	$3,484	$4,551	$4,801
Operating profit ($/ha)	$2,748	$2,794	$3,279	$2,464	$1,309
Operating profit ($/bale)	$231	$247	$262	$190	$118
Yield/ha	11.90	11.33	12.50	12.97	11.09

- The sample size this year for other valleys was not large enough to be included separately in this years' analysis.

2.1.3 FIVE YEAR AVERAGES TO 2018

As noted in the introduction, we believe the message of the average is important, so we have compared five year average figures for the Average Farmers and the Top 20% Farmers using 2014, 2015, 2016, 2017 and current year's data.

What makes the Top 20% Farmers so much better than Average Farmers?

In the five selected years, the Top 20% Farmers made 79% more profit (after interest) than the Average Farmers ($2,900/ha compared to $1,621/ha).

The difference is attributed to the following factors:

Land productivity (yield/ha)	48%	or	$610
Price	14%	or	$186
Direct cost savings – excluding Wages – Proprietors (fine tuning)	28%	or	$352
Interest savings (less debt)	10%	or	$131
	100%		**$1,279**

The message from these figures is that better land productivity (measured by higher yield) is overwhelmingly the major feature of the top performers. Farmers should concentrate on growing higher yield within a realistic cost framework rather than searching for dramatic cost cutting measures if they wish to improve their performance significantly.

2.1.4 OTHER OBSERVATIONS

Over the years, many "rules of thumb" have been developed and quoted by farmers, financiers and accountants:

- Cotton farmers are in principle debt free if, at year-end, their equity in cotton pools and any unsold cotton covers their total borrowings.
- The contingent tax liability associated with crop proceeds tipped forward (on hand and in pools) should always be calculated and brought to account at year- end when measuring your wealth.
- The impact of inconsistent water availability on taxation. In a big profit year, with the ability to pool (defer) proceeds, a tax loss results. Then heading into a lower production year, taxable income results. Growers need to understand this relationship with a view to managing it and the cashflow implications it creates.
- Debt in the industry is an issue. Even with interest rates at historically low levels, interest cost per hectare (5 year average is $320 per hectare and represents 7% of operating expenses) are significant. To overlay current debt with rates of 10% or 12% would have a significant impact on the industry.
- High wage costs and machinery horsepower per hectare are a quick indicator of overall high costs of operations.

- Don't underestimate the value of knowledge, both within your industry and worldwide. It can be difficult to keep up to date with the latest practices, but falling behind will cost you money.
- Because of the high fixed and semi-fixed costs in this industry, it is becoming increasingly important to be able to grow enough area every year to at least cover these costs. The value of secured water is obvious when supply is short. With land and water being the finite resource available, these assets should be matched to secure consistent production.

2.1.5 WATER AVAILABILITY/VIABILITY

In the 2018 analysis Water charges and purchases were $114 per hectare greater than 2017 and $46 per hectare more than the 5 year average. As might be expected the 2018 result was heavily influenced by the Murrumbidgee which spent an average of $711 per hectare on Water charges and purchases (which is nearly double what was recorded in 2017 for that valley).

At the time of writing the implications for the industry now and in the future, due to the lack of availability and subsequent cost of water, is a big challenge.

With this in mind, what does an analysis of the price of water and breakeven price required look like?

If we assume water required for fully irrigated cotton is 10Ml/Ha then the Average Farmers water charge per ML is $35.90. Note in the Southern Valleys this is $71.10/ML.

All farm net profit was $2,593 before water charges. This profit margin is fully eroded once the average price per ML exceeds $259.30. This is at an average value per bale of $541.77 (Lint and seed less ginning and levies).

For the Southern Valleys specifically, farm net profit after interest but before water charges was $1,497/Ha. Assuming 10ML per Ha this profit margin is fully eroded once the average price per ML exceeds $149.70/ML. This is at an average value per bale of $554.24 (Lint and seed less ginning and levies).

Please note;

1. This is purely water scheme and purchase costs and does not take into account the fuel used for pumping
2. Every grower is different, having different water requirements for their crop as well as different cost structures for their business. If you would like us to help you analyse this with specific reference to your circumstances, please get in touch.
3. Many factors go into growing cotton despite water costs approaching this level such as keeping staff, meeting sales contracts etc. and as such growers may like to average water costs and returns over an extended period for relativity (i.e. making a loss one year allows you to participate in bigger upside when water is cheaper).
4. As water approaches this level growers are taking on large risk with no profit margin. In this case, it is definitely worth looking into different scenarios such as:

   a. Only growing enough hectares as you have secured water at a viable cost.
   b. Selling water into the market (no risk and high prices).

2.1.6 FEATURES OF THE TOP PERFORMERS

Over the past fifteen years, many cotton farmers have been able to achieve top-class results, even in years when seasonal or financial circumstances were less than favourable.

Outlined below are some of the distinguishing characteristics and features of successful cotton growers:

- **Controlled operating costs**

  Operating costs (before interest) for farmers have averaged $4,080/ha for the past five years. With fine-tuning, the best farmers have been able to keep their operating costs under control without sacrificing yield and still adequately maintaining all assets.

  The performance of the "Low Cost" Farmers operating at their optimum scale over the past five years proves that a target for operating costs of $3,250 to $3,750 /ha is achievable in a normal year. These figures translate to operating costs of $280 to $320 /bale.

- **Consistent marketing strategies**

  There are a large number of marketing alternatives available to cotton farmers. The strategies adopted by individual farmers depend on:

  - Individual outlook on risk
  - World-wide economic outlook
  - Taxation implications
  - Cash flow implications
  - Water availability
  - Level of knowledge on how to use the complex alternatives

  To date, the perfect marketing strategy has proved to be elusive. Farmers need to make marketing decisions with the aim of maximising their crop income, keeping production risk in mind and remembering that a net return in excess of $500/bale should produce a sizeable profit (on an irrigated hectare).

  In our opinion, the application of consistent marketing strategies on a year in year out basis is the key to maximising per bale prices in the longer term.

  The top farmers know their cost of production per bale. They then base marketing decisions on that known cost.

- **Productive labour**

  Top-class results cannot be produced without having a top-class team of employees who are efficient, focused, motivated and stable.

  The best farms ensure that employees are kept informed, are trained to do their job properly, given responsibility and an opportunity to participate in on-farm decision making. It is also essential that employees are properly remunerated and take their holidays every year.

- **Reliable machinery**

  All good farmers appreciate the importance of timing and so ensure that they own or have access to sufficient reliable machinery to carry out all operations efficiently and on time.

- **Sustainable farming techniques (rotation)**

  Many of the benefits of a stringent rotation program are not quantifiable in the short term, and the benefits that are quantifiable are often disguised by other variables that can affect yield in any season. Growers, however, are rotating to address the issues of disease and to allow for the re-levelling of fields.

  If farmers are going to maintain a sustainable cotton production system, maintain high yields and achieve high levels of profitability in the long term, the issue of rotation needs to be included in the equation.

  The top performers are continually looking at varied crops for rotation. These decisions are being made for agronomic and financial reasons. Industry awareness is required to learn from these operators.

- **Water use efficiency**

  The timing of when water is applied is critical in the production of high yielding crops.

  As water becomes even more limited, the science behind the timing of watering and understanding each variety's reaction to the timing of water will become even more crucial. Growers are now paying closer attention to measuring water use efficiency.

- **Conservative levels of debt**

  Many farmers are carrying large amounts of debt. By adopting sound, sustainable practices, the best farmers have been able to generate a significant cash surplus to repay borrowings. The best farmers are in an enviable position of being able to survive in tough times, and in some circumstances expand the scale of their operations.

  It must be noted that debt can only be repaid out of a cash surplus after allowing for taxation, drawings and capital purchases, or from the sale of other assets. It is interesting to note that the North have experienced stagnated water and land values over the last seven years while the South has experienced large increases in the value of water and land.

  Our current low interest rate environment should encourage growers to look at protecting their borrowings through interest rate management. Financiers are offering many varied products that provide this protection.

  Farmers are considered to be in a very solid financial position (category A) if their debt, net of equity in cotton pools and unsold crop, is less than 20% of assets at 30 June.

- **Efficient financial management**

  Good farmers keep their financial affairs up to date and under control by utilising computerised office tools.

  Annual budgets are prepared by the top performers on a conservative basis with realistic yet challenging targets. Performance is then monitored monthly, comparing actual results with the previously prepared budget. With up-to-date management reports, top performers can analyse performance and fine tune operations regularly. They also keep their financiers well informed at all times.

- **Timing**

  The best farms carry out all operations on time. Fields are ready to plant as soon as the season permits, machinery is always ready to carry out the next task and team members always know what they have to do a week or a month ahead. Waterings are never late.

  Being on time is a result of good planning and good communication and leads to increased yields.

- **Planning and long term vision**

  At the heart of every good operation is a person with vision; a vision of where the business is going on a day-to-day basis, on an annual basis, and on a long-term basis (ten years plus). The best farmers always seem to have time on their hands because they have clearly defined goals. They have communicated those goals to their team members, and then take on the role of a coach who guides and encourages their team to carry out the day-to-day activities.

- **High yields**

  High yields are the reward for getting all aspects of a farming operation right. No single farming technique, method of operation or management decision is going to have a significant impact. Top performers do all the little things thoroughly and on time and as a consequence "reap the rewards".

  The best farmers consistently achieve yields in excess of 11 bales/ha year after year (assuming adequate water availability and no disasters such as hail or floods). Total farm averages of greater than 11.0 bales/ha have been achieved and are now a realistic goal.

2.2 RETURN ON ASSETS

2.2.1 WHAT RETURN ON ASSETS AM I GETTING?

With costs continuing to rise, average cotton prices not growing in real terms, some growers where capital growth in the industry will come from, growers must continue to look at the return on assets of a cotton farm.

Although a long term view is essential, growers must continually look at alternative investments (allowing for risk) to assess what the return of a cotton farm really is.

As a general statement, the ten year average figures should not be used when analyzing the return on assets of the industry as a whole. This is similar to our comments in the Introduction that this analysis does not necessarily show the health of the cotton industry. Figures resulting from rotation crops, dryland cotton or semi irrigated cotton, are, by definition, excluded from this analysis. To get more realistic ten year figures, more work would have to be done to ascertain an average, probably based on historical water availability.

Trend lines indicate that the operating profit for the Top 20% Farmers and the Average Farmers is on the rise with exceptionally strong results for the last three years having an impact.

How do I calculate my simple return on assets (ROA)?

The simple ROA is calculated by dividing your operating profit per hectare (before interest) by the value per hectare (which is calculated as the total value of your land, licences and machinery divided by the number of hectares grown during the year).

We have included a worksheet to calculate your ROA. The process is easy to follow and is outlined below:-

- From the farm operating profit/(loss) per ha spreadsheet find your yield and price per bale. Match these up to calculate your operating profit (before interest) based on costs of $3,500/ha.
- Find the profit closest to your farm along the base of the return on assets based on various profits and land variations spreadsheets.
- Select a value per hectare (this is calculated as the total value of your land, licences and machinery divided by the number of hectares grown during the year), then:

  a. You should add a value per hectare to allow for the country not planted. If you plant 2/3 of your country, increase the value of your investment by 50%.

  b. You also should add a value per hectare based on your machinery investment relating to the cotton operation, e.g. $1,500,000 machinery divided by 1,500 hectares increases your investment by $1,000/ha).
- Match the two up and calculate your simple return on assets.

2.2.2 WHY MEASURE ROA?

In isolation ROA provides you with a measure to better assess alternative investments. One year's ROA result should not serve as the yardstick to base decisions such as entry or exit of the industry.

This ROA does not include any increase in the value of your assets. If in a year you achieve 7% ROA and the value of your assets increased by 5% then your total return is 12%.

Linked directly to this is the fact that you now have a higher asset value, and next year if you achieve the same profit, your ROA will be lower.

Use the calculator to predict what your future returns may be.

For example:

- Assume a profit of $800/ha against today's valuation of $10,000 ha – 8% return
- Now use the same profit against an increased market rate of $15,000/ha – 5.3% return
- To achieve an 8% return against a $15,000/ha valuation you need to reach a profit of $1,200/ha.

The cotton yield remains the greatest variable when looking forward or doing current comparisons between growers. As discussed in this and prior reports, land productivity (yield) contributes to the majority of the difference between the Top 20% and Average Farmers. What difference does yield make on ROA?

For example:

- Five year average profit to 2018 (before interest) for the Average Farmers of $1,621/ha against $17,500/ha – 9.1% return.
- Five year average profit to 2018 (before interest) for the Top 20% Farmers of $2,900/ha against $17,500/ha – 16.6% return.

  (Yield differential of 1.21 bales/ha).

ROA needs to be balanced against such factors as risk, sustainability and reinvestment. If a grower's main aim is to just increase the ROA, this may have a negative impact on sustainability, as they may not reinvest through redevelopment and take other sustainable actions.

There is a direct link between ROA and yield. The industry continues to strive for increased yield with the challenge of balancing long term sustainability.

RETURN ON ASSETS CALCULATOR 2018

FARM OPERATING PROFIT/(LOSS) PER HECTARE BASED ON ALTERNATIVE YIELDS AND PRICES – BEFORE INTEREST

$ / BALE	AVERAGE YIELD PER HECTARE (COST PER HA USED : $3,500)																													
	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00	9.25	9.50	9.75	10.00	10.25	10.50	10.75	11.00	11.25	11.50	11.75	12.00	12.25	12.50
650	1,213	1,375	1,538	1,700	1,863	2,025	2,188	2,350	2,513	2,675	2,838	3,000	3,163	3,325	3,488	3,650	3,813	3,975	4,138	4,300	4,463	4,625
640	1,140	1,300	1,460	1,620	1,780	1,940	2,100	2,260	2,420	2,580	2,740	2,900	3,060	3,220	3,380	3,540	3,700	3,860	4,020	4,180	4,340	4,500
630	1,068	1,225	1,383	1,540	1,698	1,855	2,013	2,170	2,328	2,485	2,643	2,800	2,958	3,115	3,273	3,430	3,588	3,745	3,903	4,060	4,218	4,375
620	995	1,150	1,305	1,460	1,615	1,770	1,925	2,080	2,235	2,390	2,545	2,700	2,855	3,010	3,165	3,320	3,475	3,630	3,785	3,940	4,095	4,250
610	923	1,075	1,228	1,380	1,533	1,685	1,838	1,990	2,143	2,295	2,448	2,600	2,753	2,905	3,058	3,210	3,363	3,515	3,668	3,820	3,973	4,125
600	850	1,000	1,150	1,300	1,450	1,600	1,750	1,900	2,050	2,200	2,350	2,500	2,650	2,800	2,950	3,100	3,250	3,400	3,550	3,700	3,850	4,000
590	778	925	1,073	1,220	1,368	1,515	1,663	1,810	1,958	2,105	2,253	2,400	2,548	2,695	2,843	2,990	3,138	3,285	3,433	3,580	3,728	3,875
580	705	850	995	1,140	1,285	1,430	1,575	1,720	1,865	2,010	2,155	2,300	2,445	2,590	2,735	2,880	3,025	3,170	3,315	3,460	3,605	3,750
570	633	775	918	1,060	1,203	1,345	1,488	1,630	1,773	1,915	2,058	2,200	2,343	2,485	2,628	2,770	2,913	3,055	3,198	3,340	3,483	3,625
560	560	700	840	980	1,120	1,260	1,400	1,540	1,680	1,820	1,960	2,100	2,240	2,380	2,520	2,660	2,800	2,940	3,080	3,220	3,360	3,500
550	488	625	763	900	1,038	1,175	1,313	1,450	1,588	1,725	1,863	2,000	2,138	2,275	2,413	2,550	2,688	2,825	2,963	3,100	3,238	3,375
540	415	550	685	820	955	1,090	1,225	1,360	1,495	1,630	1,765	1,900	2,035	2,170	2,305	2,440	2,575	2,710	2,845	2,980	3,115	3,250
530	343	475	608	740	873	1,005	1,138	1,270	1,403	1,535	1,668	1,800	1,933	2,065	2,198	2,330	2,463	2,595	2,728	2,860	2,993	3,125
520	270	400	530	660	790	920	1,050	1,180	1,310	1,440	1,570	1,700	1,830	1,960	2,090	2,220	2,350	2,480	2,610	2,740	2,870	3,000
510	198	325	453	580	708	835	963	1,090	1,218	1,345	1,473	1,600	1,728	1,855	1,983	2,110	2,238	2,365	2,493	2,620	2,748	2,875
500	125	250	375	500	625	750	875	1,000	1,125	1,250	1,375	1,500	1,625	1,750	1,875	2,000	2,125	2,250	2,375	2,500	2,625	2,750
490	53	175	298	420	543	665	788	910	1,033	1,155	1,278	1,400	1,523	1,645	1,768	1,890	2,013	2,135	2,258	2,380	2,503	2,625
480	(20)	100	220	340	460	580	700	820	940	1,060	1,180	1,300	1,420	1,540	1,660	1,780	1,900	2,020	2,140	2,260	2,380	2,500
470	(93)	25	143	260	378	495	613	730	848	965	1,083	1,200	1,318	1,435	1,553	1,670	1,788	1,905	2,023	2,140	2,258	2,375
460	(165)	(50)	65	180	295	410	525	640	755	870	985	1,100	1,215	1,330	1,445	1,560	1,675	1,790	1,905	2,020	2,135	2,250
450	(238)	(125)	(13)	100	213	325	438	550	663	775	888	1,000	1,113	1,225	1,338	1,450	1,563	1,675	1,788	1,900	2,013	2,125
440	(310)	(200)	(90)	20	130	240	350	460	570	680	790	900	1,010	1,120	1,230	1,340	1,450	1,560	1,670	1,780	1,890	2,000
430	(383)	(275)	(168)	(60)	48	155	263	370	478	585	693	800	908	1,015	1,123	1,230	1,338	1,445	1,553	1,660	1,768	1,875

Steps

1. Pick your price per bale and yield/ha.
2. Match them up and get your profit per hectare based on growing costs of $3,500.
3. Find your closest profit range on the bottom of the next graph.

RETURN ON ASSETS CALCULATOR 2018

RETURN ON ASSETS BASED ON VARIOUS PROFITS AND LAND VALUATIONS

VALUE /HA	100	300	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,700	1,900	2,000	2,200	2,400	2,600	2,800	3,000	3,200
$35,000	0.3%	0.9%	1.4%	1.7%	2.0%	2.3%	2.6%	2.9%	3.1%	3.4%	3.7%	4.0%	4.3%	4.9%	5.4%	5.7%	6.3%	6.9%	7.4%	8.0%	8.6%	9.1%
$34,000	0.3%	0.9%	1.5%	1.8%	2.1%	2.4%	2.6%	2.9%	3.2%	3.5%	3.8%	4.1%	4.4%	5.0%	5.6%	5.9%	6.5%	7.1%	7.6%	8.2%	8.8%	9.4%
$33,000	0.3%	0.9%	1.5%	1.8%	2.1%	2.4%	2.7%	3.0%	3.3%	3.6%	3.9%	4.2%	4.5%	5.2%	5.8%	6.1%	6.7%	7.3%	7.9%	8.5%	9.1%	9.7%
$32,000	0.3%	0.9%	1.6%	1.9%	2.2%	2.5%	2.8%	3.1%	3.4%	3.8%	4.1%	4.4%	4.7%	5.3%	5.9%	6.3%	6.9%	7.5%	8.1%	8.8%	9.4%	10.0%
$31,000	0.3%	1.0%	1.6%	1.9%	2.3%	2.6%	2.9%	3.2%	3.5%	3.9%	4.2%	4.5%	4.8%	5.5%	6.1%	6.5%	7.1%	7.7%	8.4%	9.0%	9.7%	10.3%
$30,000	0.3%	1.0%	1.7%	2.0%	2.3%	2.7%	3.0%	3.3%	3.7%	4.0%	4.3%	4.7%	5.0%	5.7%	6.3%	6.7%	7.3%	8.0%	8.7%	9.3%	10.0%	10.7%
$29,000	0.3%	1.0%	1.7%	2.1%	2.4%	2.8%	3.1%	3.4%	3.8%	4.1%	4.5%	4.8%	5.2%	5.9%	6.6%	6.9%	7.6%	8.3%	9.0%	9.7%	10.3%	11.0%
$28,000	0.4%	1.1%	1.8%	2.1%	2.5%	2.9%	3.2%	3.6%	3.9%	4.3%	4.6%	5.0%	5.4%	6.1%	6.8%	7.1%	7.9%	8.6%	9.3%	10.0%	10.7%	11.4%
$27,000	0.4%	1.1%	1.9%	2.2%	2.6%	3.0%	3.3%	3.7%	4.1%	4.4%	4.8%	5.2%	5.6%	6.3%	7.0%	7.4%	8.1%	8.9%	9.6%	10.4%	11.1%	11.9%
$26,000	0.4%	1.2%	1.9%	2.3%	2.7%	3.1%	3.5%	3.8%	4.2%	4.6%	5.0%	5.4%	5.8%	6.5%	7.3%	7.7%	8.5%	9.2%	10.0%	10.8%	11.5%	12.3%
$25,000	0.4%	1.2%	2.0%	2.4%	2.8%	3.2%	3.6%	4.0%	4.4%	4.8%	5.2%	5.6%	6.0%	6.8%	7.6%	8.0%	8.8%	9.6%	10.4%	11.2%	12.0%	12.8%
$24,000	0.4%	1.3%	2.1%	2.5%	2.9%	3.3%	3.8%	4.2%	4.6%	5.0%	5.4%	5.8%	6.3%	7.1%	7.9%	8.3%	9.2%	10.0%	10.8%	11.7%	12.5%	13.3%
$23,000	0.4%	1.3%	2.2%	2.6%	3.0%	3.5%	3.9%	4.3%	4.8%	5.2%	5.7%	6.1%	6.5%	7.4%	8.3%	8.7%	9.6%	10.4%	11.3%	12.2%	13.0%	13.9%
$22,000	0.5%	1.4%	2.3%	2.7%	3.2%	3.6%	4.1%	4.5%	5.0%	5.5%	5.9%	6.4%	6.8%	7.7%	8.6%	9.1%	10.0%	10.9%	11.8%	12.7%	13.6%	14.5%
$21,000	0.5%	1.4%	2.4%	2.9%	3.3%	3.8%	4.3%	4.8%	5.2%	5.7%	6.2%	6.7%	7.1%	8.1%	9.0%	9.5%	10.5%	11.4%	12.4%	13.3%	14.3%	15.2%
$20,000	0.5%	1.5%	2.5%	3.0%	3.5%	4.0%	4.5%	5.0%	5.5%	6.0%	6.5%	7.0%	7.5%	8.5%	9.5%	10.0%	11.0%	12.0%	13.0%	14.0%	15.0%	16.0%
$19,000	0.5%	1.6%	2.6%	3.2%	3.7%	4.2%	4.7%	5.3%	5.8%	6.3%	6.8%	7.4%	7.9%	8.9%	10.0%	10.5%	11.6%	12.6%	13.7%	14.7%	15.8%	16.8%
$18,000	0.6%	1.7%	2.8%	3.3%	3.9%	4.4%	5.0%	5.6%	6.1%	6.7%	7.2%	7.8%	8.3%	9.4%	10.6%	11.1%	12.2%	13.3%	14.4%	15.6%	16.7%	17.8%
$17,000	0.6%	1.8%	2.9%	3.5%	4.1%	4.7%	5.3%	5.9%	6.5%	7.1%	7.6%	8.2%	8.8%	10.0%	11.2%	11.8%	12.9%	14.1%	15.3%	16.5%	17.6%	18.8%
$16,000	0.6%	1.9%	3.1%	3.8%	4.4%	5.0%	5.6%	6.3%	6.9%	7.5%	8.1%	8.8%	9.4%	10.6%	11.9%	12.5%	13.8%	15.0%	16.3%	17.5%	18.8%	20.0%
$15,000	0.7%	2.0%	3.3%	4.0%	4.7%	5.3%	6.0%	6.7%	7.3%	8.0%	8.7%	9.3%	10.0%	11.3%	12.7%	13.3%	14.7%	16.0%	17.3%	18.7%	20.0%	21.3%

PROFIT PER HECTARE FROM PREVIOUS WORKSHEET

Steps

1. Select a value of your land, licences and machinery that are applicable to the cotton operation.
2. Divide the value in 1. by the number of hectares grown in the year.
3. Use your closest profit and the value per hectare to work out the return on your investment.

2.3 CONCLUSION

2018 has been the most profitable year in the history of this analysis, on the back of very profitable years in 2015 through to 2017.

With four good years back to back, growers would have the choice of debt reduction, farm improvements or new acquisitions. For some, tax will be an issue – particularly going into a dry period with fewer inputs to offset the income from the 2018 crop.

The outlook for the 2019 season is a crop that is well down on 2018 due to the on-going dry conditions and lack of water. The predicted crop is expected to be less than half of what Australia produced in 2018.

The lack of water and water variability has been an issue for the more established valleys since 2000. While much effort continues to be invested in trying to argue the impacts of climate change, our view remains that growers should spend their efforts on ensuring they can survive and profit during extreme weather events. If this is achieved, profit will be maximised regardless of the outcome of the climate change debate. Water availability and water security continue to drive the industry in the southern valleys. Interestingly, in some situations, water security in the south has seen land use progress from grazing directly to permanent plantings, by-passing cotton.

Saving labour continues to be a strong focus in the industry. Farmers developing for the first time and others who are looking to re-laser are considering a bankless channel farm layout. While the upfront cost is relatively easy to ascertain, the financial impacts (costs, impact on yield etc.) are more difficult to consider. The industry continues to learn and adapt, and this process is, in our view, being assisted by the practices in the emerging cotton growing areas.

The agricultural sector in general and the cotton industry, in particular, are known for their early adoption of technology. The technology available today, whether it is genetic, machinery-based or relating to systems and process, is leading to increased yield and reduced labour. The question is, at what cost? If the maximisation of profit is the goal, we think growers should establish the impact of technology on profitability before it is adopted.

There is a divergence in the industry between the newer cotton growing areas and the more established valleys. It's exciting to see the different areas learning from each other. The newer valleys are developing land for the first time whereas a lot of growers in the older valleys are looking to redevelop their farms with better layouts and irrigation methods. In our view, it is healthy for the industry to have these different stages in different cotton growing areas. The southern valleys continue to grow however water availability at a viable cost has meant the crop grown in 2019 is similarly well down from 2018. It will be interesting to see how the figures final fall in 2019, but it is expected that the profit per hectare of irrigated cotton may well be down due to the lack of water and overheads (and add the cost of water in the South).

In other industry publications we have discussed Terms of Trade, its impact on the industry and the importance of growers understanding it.

Terms of Trade refers to the relationship between the price of outputs and the price of inputs for an Industry.

With the price of inputs continuing to rise and the price of outputs fluctuating but remaining flat, Terms of Trade for the Industry continues to slide.

If you take the price of Inputs out of the equation (for the purpose of this exercise accepting this as a given and out of a growers control) then what is left in the decision making process is a) more yield, b) reducing volume of inputs, and c) reducing the number of times those inputs are applied. With continuing adoption of technology and farms becoming more 'connected' with the communication technology, we think growers are better placed than ever before to reduce the volume of inputs and the number of times the inputs are applied. One specific example of this would be variable rate application technology.

This continues the theme of growers taking time out to consider more than the day to day operations, thinking about where the industry is heading and implementing changes to their business accordingly.

The 2018 Australian Cotton Comparative Analysis maintains our goal to measure and analyse the components that provide farmers with a stronger financial bottom line.

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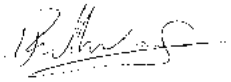

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3

Comparative Statistics

3.1 SUMMARY

3.1.1 COMPARISON OF AVERAGE INCOME AND EXPENSE ITEMS FOR THE 2018 YEAR

	YOUR FARM	ALL FARMS	TOP 20%	BOTTOM 20%	LOW COST	GROWERS (> 2,000 HA)	DIFFERENCE
INCOME							
Cotton proceeds - Lint		6,339	7,334	5,644	6,410	6,229	995
Cotton proceeds - Seed		809	782	917	719	759	(27)
Ginning		(698)	(742)	(636)	(682)	(686)	(44)
Levies		(45)	(48)	(48)	(43)	(43)	(3)
Cotton proceeds - Hail claims		4	0	8	0	5	(4)
		6,409	**7,326**	**5,885**	**6,404**	**6,264**	**917**
EXPENSES							
Cartage		92	127	153	69	68	35
Chemical application		154	181	146	166	160	27
Chemicals - Defoliants		42	48	49	44	36	6
Chemicals - Herbicides		105	123	81	101	104	18
Chemicals - Insecticides		135	185	95	151	134	50
Chemicals - Others		10	9	5	7	11	(1)
Chipping		1	5	0	3	1	4
Consultants		50	77	77	55	40	27
Contract picking		135	148	228	113	125	13
Contract farming and ripping		127	103	364	110	152	(24)
Cotton picking wrap and sundries		106	124	69	110	114	18
Depreciation		206	113	260	153	189	(93)
Electricity		49	29	60	18	41	(20)
Fertiliser		482	511	474	440	522	29
Fuel and oil		315	238	566	218	322	(77)
Hire of plant		20	2	37	2	25	(18)
Insurance		106	153	94	118	110	47
Licence fee - Bollgard		311	308	333	272	301	(3)
Licence fee - Roundup ready		76	76	82	77	72	0
Motor vehicle expenses		18	10	15	9	15	(8)
R & M - Farming plant		156	59	147	95	158	(97)
R & M - Pumps and earthworks		103	24	70	41	111	(79)
Seed		126	119	170	106	115	(7)
Water charges and purchases		359	204	744	160	355	(155)
Wages - Employees		379	272	356	306	388	(107)
Wages - Proprietors		32	8	66	18	5	(24)
Administration		58	44	140	42	26	(14)
Other farm overheads		143	78	325	58	105	(65)
		3,896	**3,378**	**5,206**	**3,062**	**3,805**	**(518)**
OPERATING PROFIT/(LOSS)		**2,513**	**3,948**	**679**	**3,342**	**2,459**	**1,435**
ADD:							
Wages - Proprietors		32	8	66	18	5	(24)
FARM OPERATING PROFIT/(LOSS)		**2,545**	**3,956**	**745**	**3,360**	**2,464**	**1,411**

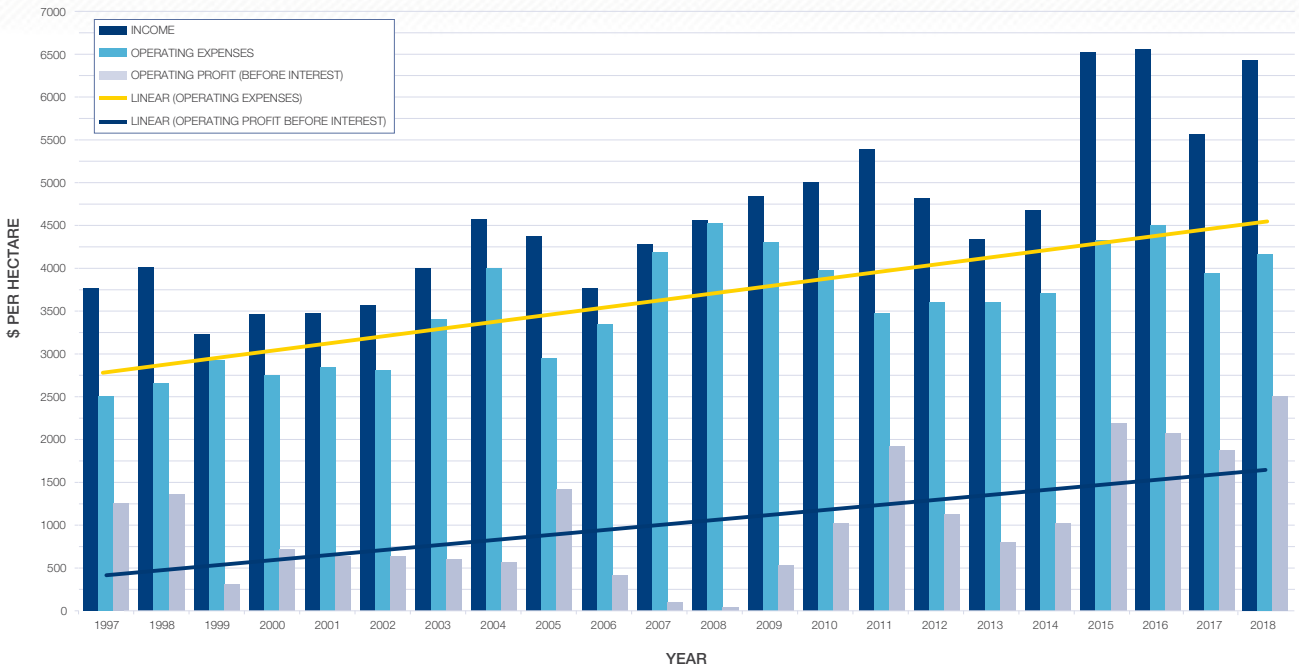
3.1.1 COMPARISON OF AVERAGE INCOME AND EXPENSE ITEMS FOR THE 2018 YEAR (continued)

	YOUR FARM	ALL FARMS	TOP 20%	BOTTOM 20%	LOW COST	GROWERS (>2,000 HA)	DIFFERENCE
DEDUCT:							
Interest and bank charges		311	135	530	177	186	(176)
Interest - Crop terms		0	0	0	0	0	0
		311	**135**	**530**	**177**	**186**	**(176)**
FARM NET PROFIT/(LOSS)		**$2,234**	**$3,821**	**$215**	**$3,183**	**$2,278**	**1,587**
CROP RESULTS							
Hectares of cotton grown		1,141	1,077	636.02	1,924.05	3,156.72	(64)
Total yield		13,484	14,351	6,675.21	22,778.59	37,020.04	867
Yield per hectare		11.82	13.33	10.50	11.84	11.73	2
Value per bale		$542	$550	$559.94	$540.84	$533.74	8
Cost of production per bale		$330	$254	$496.16	$258.58	$324.34	(76)
Operating profit/(loss) per bale		$212	$296	$64.53	$282.26	$209.84	84
Number of bales per hectare required to cover operating expenses		7	6	9.30	5.66	7.13	(1)
Number of bales per hectare required to cover total expenses		8	6	10.25	5.99	7.47	(1)

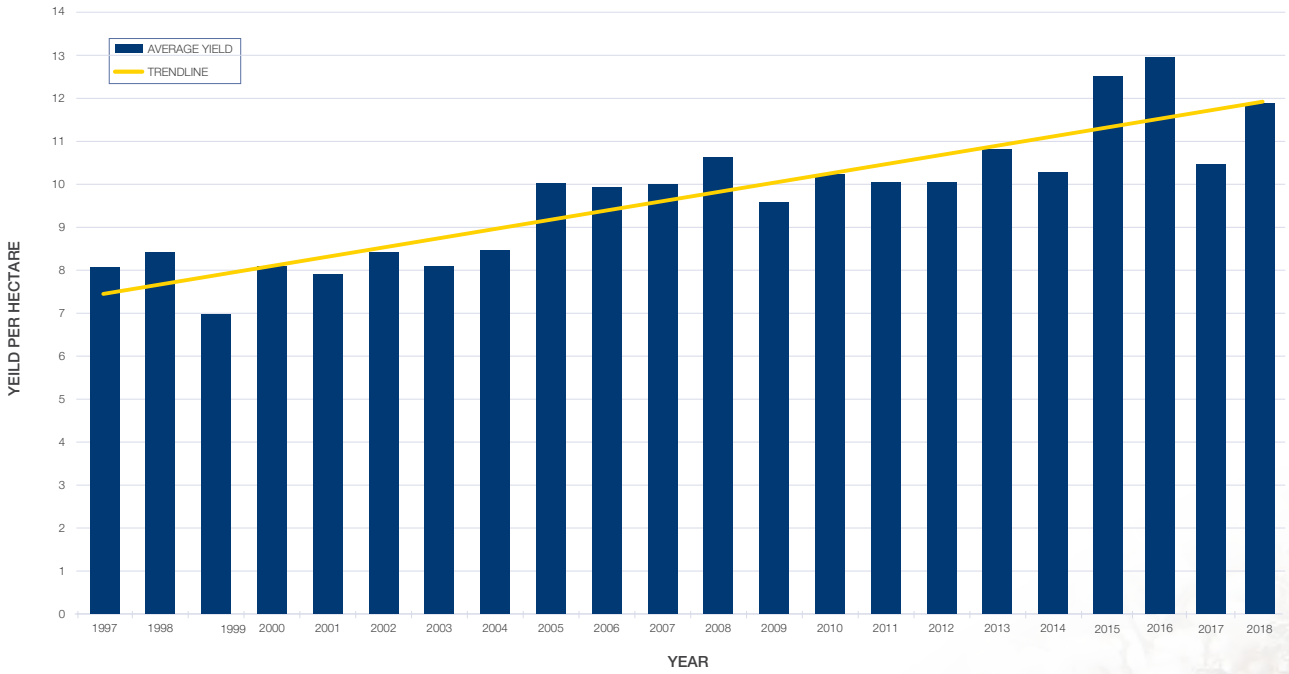
3.2 AVERAGE FARMERS PER HECTARE

3.2.1 GRAPHS

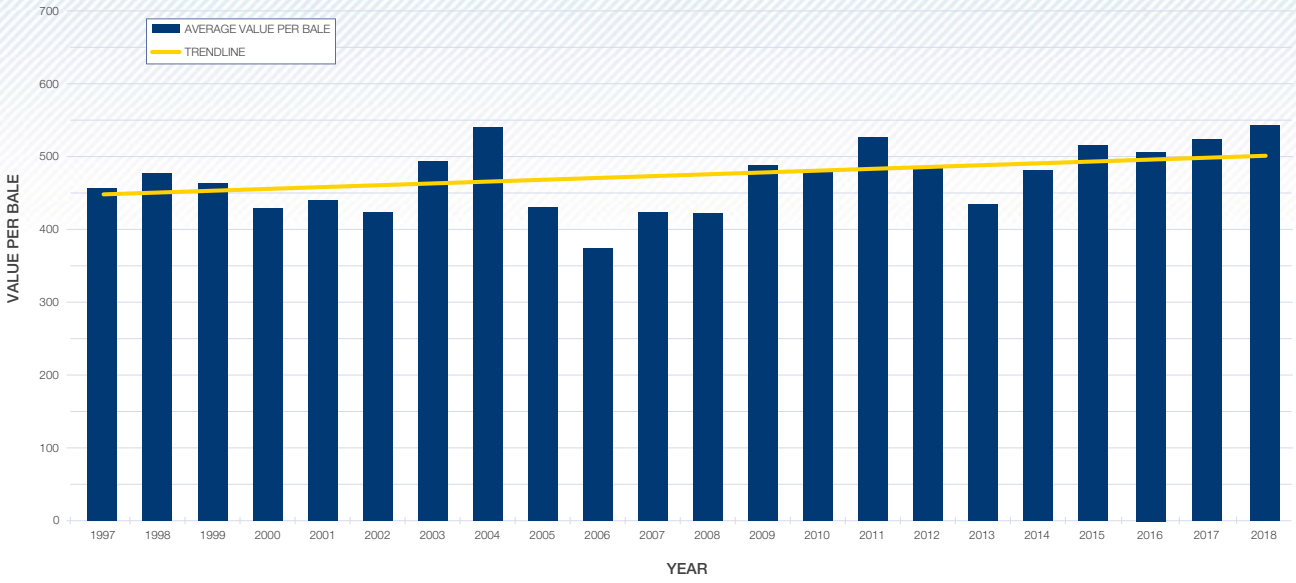
3.2.1.1 COMPARISON OF AVERAGE INCOME AND EXPENSE ITEMS



3.2.1.2 YIELD AND TRENDLINE



3.2.1.3 VALUE PER BALE AND TRENDLINE



3.2.2 COMPARISON OF AVERAGE INCOME AND EXPENSE ITEMS FOR THE PAST 10 YEARS

2009	2010	2011	2012	2013	2014	2015	2016	2017		2018
									INCOME	
4,265	4,758	5,256	4,866	4,712	4,709	6,133	6,449	5,404	Cotton proceeds - Lint	6,339
935	742	546	400	524	805	1,180	917	833	Cotton proceeds - Seed	809
(495)	(542)	(484)	(512)	(630)	(621)	(744)	(752)	(621)	Ginning	(698)
(37)	(35)	(33)	(31)	(36)	(46)	(54)	(49)	(41)	Levies	(45)
169	79	106	70	17	57	10	0	0	Cotton proceeds - Hail claims	4
4,837	**5,002**	**5,391**	**4,793**	**4,587**	**4,904**	**6,525**	**6,565**	**5,575**		**6,409**
									EXPENSES	
100	112	136	117	132	86	106	103	87	Cartage	92
87	136	138	131	106	151	146	184	180	Chemical application	154
79	63	55	53	42	49	61	51	64	Chemicals - Defoliants	42
174	108	108	85	84	115	116	153	137	Chemicals - Herbicides	105
144	151	142	84	35	81	112	164	155	Chemicals - Insecticides	135
48	38	11	7	5	4	6	10	7	Chemicals - Others	10
24	15	2	3	3	2	1	9	2	Chipping	1
76	72	64	57	52	43	45	86	52	Consultants	50
255	261	282	241	176	182	151	145	129	Contract picking	135
42	24	122	164	215	100	102	156	163	Contract farming and ripping	127
14	9	55	84	78	75	104	131	114	Cotton picking wrap and sundries	106
372	426	164	178	227	249	354	298	211	Depreciation	206
59	79	76	29	45	50	104	109	51	Electricity	49
428	399	387	517	546	533	478	591	455	Fertiliser	482
327	305	258	271	403	380	377	273	242	Fuel and oil	315
2	7	22	43	32	52	39	26	17	Hire of plant	20
217	179	161	123	110	104	116	112	113	Insurance	106
218	252	286	292	310	305	270	302	301	Licence fee - Bollgard	311
50	62	60	56	39	69	69	62	73	Licence fee - Roundup ready	76
34	35	21	19	19	19	23	26	22	Motor vehicle expenses	18
137	154	121	109	123	113	159	162	203	R & M - Farming plant	156
116	183	61	84	130	159	217	179	84	R & M - Pumps and earth-works	103
105	126	115	146	107	79	140	120	131	Seed	126
486	189	134	141	160	306	343	310	245	Water charges	359
391	384	357	344	380	391	514	547	314	Wages - Employees	379
106	69	20	21	31	17	25	27	27	Wages - Proprietors	32
58	35	49	47	52	56	93	57	41	Administration	58
154	103	65	155	166	148	92	107	102	Other farm overheads	143
4,303	**3,976**	**3,472**	**3,601**	**3,808**	**3,918**	**4,363**	**4,500**	**3,722**		**3,896**
534	1,026	1,919	1,192	779	986	2,162	2,065	1,853	**OPERATING PROFIT/(LOSS)**	2,513
106	69	20	21	31	17	25	27	27	Wages - Proprietors	32
640	**1,095**	**1,939**	**1,213**	**810**	**1,003**	**2,187**	**2,092**	**1,880**	**FARM OPERATING PROFIT/ (LOSS)**	**2,545**

3.2.2 COMPARISON OF AVERAGE INCOME AND EXPENSE ITEMS FOR THE PAST 10 YEARS (continued)

2009	2010	2011	2012	2013	2014	2015	2016	2017		2018
									DEDUCT:	
1,137	1,009	380	409	389	292	288	385	322	Interest and bank charges	311
0	0	0	0	11	0	0	1	1	Interest - Crop terms	0
1,137	**1,009**	**380**	**409**	**400**	**292**	**288**	**386**	**323**		**311**
($497)	**$86**	**$1,559**	**$804**	**$410**	**$711**	**$1,899**	**$1,706**	**$1,557**	**FARM NET PROFIT/(LOSS)**	**$2,234**
									CROP RESULTS	
486.65	621.17	1,426.48	1,675.67	1,517.64	1,593.12	926.11	878.11	1,206.53	Hectares of cotton grown	1,140.69
4,660.90	6,363.40	14,325.75	16,272.11	16,223.03	16,320.98	11,660.33	11,368.18	12,773.17	Total yield (bales)	13,484.45
9.58	10.24	10.04	9.71	10.69	10.24	12.59	12.95	10.59	Yield per hectare (bales)	11.82
$487.41	$480.56	$526.23	$486.42	$427.44	$473.05	$517.48	$507.15	$526.66	Value per bale	$541.77
$449.40	$388.37	$345.82	$370.77	$356.27	$382.31	$346.53	$347.51	$351.48	Cost of production per bale	$329.73
$55.70	$99.94	$190.92	$122.89	$72.75	$96.31	$171.72	$159.68	$175.23	Operating profit per bale	$212.36
8.83	8.28	6.60	7.40	8.91	8.28	8.43	8.87	7.07	Number of bales per hectare required to cover operating expenses	7.19
11.16	10.38	7.32	8.24	9.85	8.90	8.99	9.63	7.68	Number of bales per hectare required to cover total expenses	7.77

3.2.3 COMPARISON OF AVERAGE RESULTS BETWEEN THE 2018 AND 2017 YEAR

	ALL FARMS 2018	ALL FARMS 2017	DIFFERENCE	STANDARD DEVIATION (2018)
INCOME				
Cotton proceeds - Lint	6,339	5,404	935	1,084
Cotton proceeds - Seed	809	833	(24)	204
Ginning	(698)	(621)	(77)	115
Levies	(45)	(41)	(4)	15
Cotton proceeds - Hail claims	4	0	4	38
	6,409	**5,575**	**834**	**3,252**
EXPENSES				
Cartage	92	87	(5)	96
Chemical application	154	180	26	53
Chemicals - Defoliants	42	64	22	24
Chemicals - Herbicides	105	137	32	45
Chemicals - Insecticides	135	155	20	65
Chemicals - Others	10	7	(3)	14
Chipping	1	2	1	3
Consultants	50	52	2	31
Contract picking	135	129	(6)	153
Contract farming and ripping	127	163	36	186
Cotton picking wrap and sundries	106	114	8	89
Depreciation	206	211	5	119
Electricity	49	51	2	112
Fertiliser	482	455	(27)	168
Fuel and oil	315	242	(73)	168
Hire of plant	20	17	(3)	29
Insurance	106	113	7	57
Licence fee - Bollgard	311	301	(10)	46
Licence fee - Roundup Ready	76	73	(3)	34
Motor vehicle expenses	18	22	4	25
R & M - Farming plant	156	203	47	158
R & M - Pumps and earthworks	103	84	(19)	121
Seed	126	131	5	38
Water charges and purchases	359	245	(114)	466
Wages - Employees	379	314	(65)	272
Wages - Proprietors	32	27	(5)	159
Administration	58	41	(17)	91
Other farm overheads	143	102	(41)	250
	3,896	**3,722**	**(174)**	**2,164**
OPERATING PROFIT/(LOSS)	**2,513**	**1,853**	**660)**	**1,585**
ADD:				
Wages - Proprietors	32	27	(5)	159
FARM OPERATING PROFIT/(LOSS)	**2,545**	**1,880**	**(665)**	**1,376**

3.2.3 COMPARISON OF AVERAGE RESULTS BETWEEN THE 2018 AND 2017 YEAR (continued)

	ALL FARMS 2018	ALL FARMS 2017	DIFFERENCE	STANDARD DEVIATION (2018)
DEDUCT:				
Interest and bank charges	311	322	11	432
Interest - Crop terms	0	1	1	0
	311	**323**	**12**	**408**
FARM NET PROFIT/(LOSS)	**$2,234**	**$1,557**	**$677**	**1,561**
CROP RESULTS				
Hectares of cotton grown	1,140.69	1,206.53	(65.84)	1,153.05
Total yield (bales)	13,484.45	12,773.17	711.28	13,554.86
Yield per hectare (bales)	11.82	10.59	1.23	1.73
Value per bale	$541.77	$526.66	$15.11	36.37
Cost of production per bale	$329.73	$351.48	$21.75	98.47
Operating profit per bale	$212.36	$175.23	$37.13	104.79
Number of bales per hectare required to cover operating expenses	7.19	7.07	(0.13)	1.69
Number of bales per hectare required to cover total expenses	7.77	7.68	(0.09)	2.05

3.2.4 COMPARISON OF THE AVERAGES OF THE DIFFERENT VALLEYS

	ALL VALLEYS AVE FIGURES	GWYDIR AVE FIGURES	McINTYRE/ BARWON AVE FIGURES	MACQUARIE AVE FIGURES	NAMOI AVE FIGURES	MURRUMBIDGEE AVE FIGURES
INCOME						
Cotton proceeds - Lint	6,339	6,368	6,080	6,638	6,965	5,977
Cotton proceeds - Seed	809	779	726	893	840	875
Ginning	(698)	(690)	(670)	(724)	(764)	(694)
Levies	(45)	(43)	(45)	(45)	(49)	(48)
Cotton proceeds - Hail claims	4	0	0	1	23	0
	6,409	**6,414**	**6,091**	**6,763**	**7,015**	**6,110**
EXPENSES						
Cartage	92	79	42	113	55	141
Chemical application	154	177	134	113	164	153
Chemicals - Defoliants	42	46	29	50	35	48
Chemicals - Herbicides	105	128	114	72	100	87
Chemicals - Insecticides	135	165	131	54	166	115
Chemicals - Other	10	9	18	3	4	4
Chipping	1	3	0	0	0	0
Consultants	50	52	70	35	26	58
Contract picking	135	77	166	46	75	287
Contract farming and ripping	127	69	126	57	56	381
Cotton picking wrap and sundries	106	110	97	121	137	72
Depreciation	206	205	164	225	222	224
Electricity	49	61	9	31	95	55
Fertiliser	482	415	542	427	586	578
Fuel and oil	315	285	284	195	387	447
Hire of plant	20	12	4	4	69	34
Insurance	106	130	132	61	105	76
Licence fee - Bollgard	311	311	336	249	305	329
Licence fee - Roundup ready	76	78	70	71	72	72
Motor vehicle expenses	18	15	14	24	30	12
R & M - Farming plant	156	129	113	186	283	170
R & M - Pumps and earthworks	103	68	53	121	260	118
Seed	126	138	112	88	107	162
Water charges and purchases	359	207	94	521	445	711
Wages - Employees	379	427	294	438	519	232
Wages - Proprietors	32	17	30	18	36	61
Administration	58	69	53	51	28	44
Other farm overheads	143	184	66	110	184	130
	3,896	**3,666**	**3,297**	**3,484**	**4,551**	**4,801**
OPERATING PROFIT/(LOSS)	**2,513**	**2,748**	**2,794**	**3,279**	**2,464**	**1,309**
ADD:						
Wages - Proprietors	32	17	30	18	36	61
FARM OPERATING PROFIT/(LOSS)	**2,545**	**2,765**	**2,824**	**3,297**	**2,500**	**1,370**

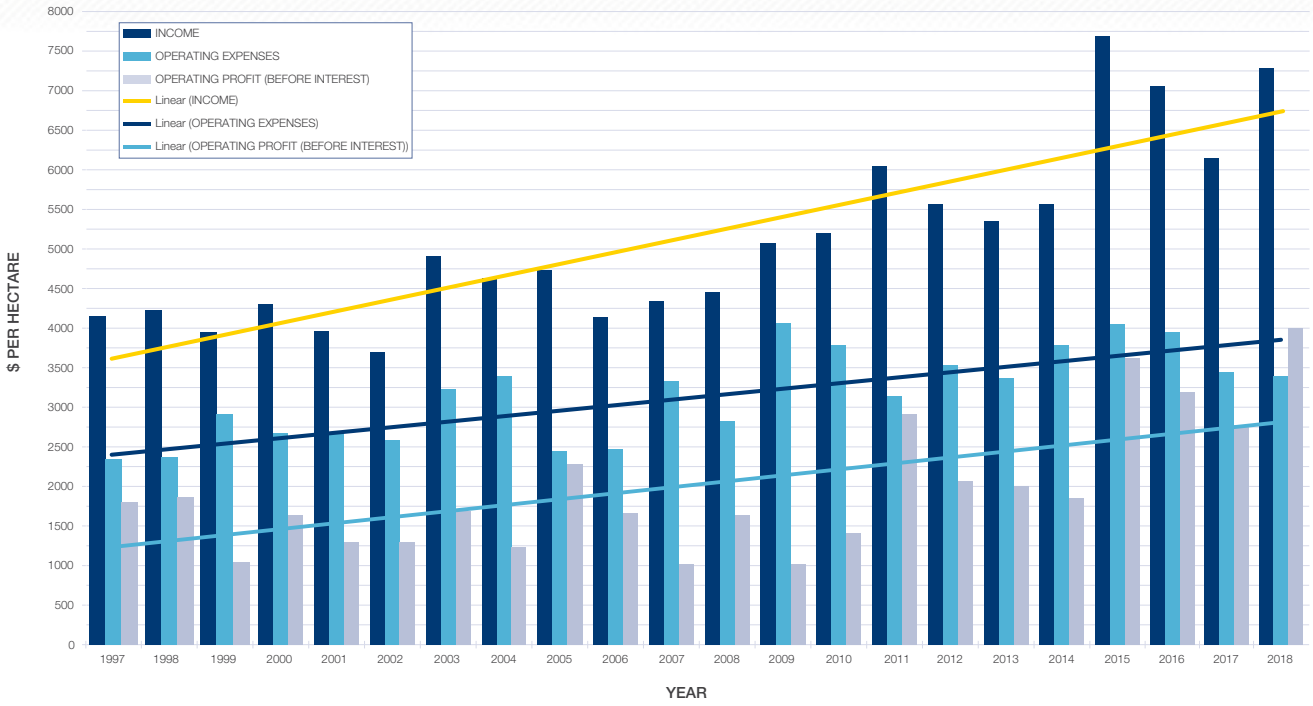
3.2.4 COMPARISON OF THE AVERAGES OF THE DIFFERENT VALLEYS (continued)

	ALL VALLEYS AVE FIGURES	GWYDIR AVE FIGURES	McINTYRE/ BARWON AVE FIGURES	MACQUARIE AVE FIGURES	NAMOI AVE FIGURES	MURRUMBIDGEE AVE FIGURES
DEDUCT:						
Interest and bank charges	311	425	167	66	190	584
Interest - Crop terms	0	0	0	0	0	0
	311	**425**	**167**	**66**	**190**	**584**
FARM NET PROFIT/(LOSS)	**$2,234**	**$2,340**	**$2,657**	**$3,231**	**$2,310**	**$786**
CROP RESULTS						
Hectares of cotton grown	1140.69	1180.30	1957.37	1207.35	1176.17	770.94
Total yield	13484.45	14047.69	22174.89	15097.52	15254.10	8550.10
Yield per hectare	11.82	11.90	11.33	12.50	12.97	11.09
Value per bale	$541.77	$538.92	$537.68	$540.79	$540.81	$554.24
Cost of production per bale	$329.73	$308.24	$291.07	$278.69	$350.99	$432.97
Operating profit/(loss) per bale	$212.36	$230.68	$246.61	$262.17	$189.89	$117.91
Number of bales per hectare required to cover operating expenses	7.19	6.81	6.13	6.44	8.42	8.66
Number of bales per hectare required to cover total expenses	7.77	7.60	6.44	6.57	8.77	9.72

3.3 TOP 20% FARMERS PER HECTARE

3.3.1 GRAPH

3.3.1.1 COMPARISON OF AVERAGE INCOME AND EXPENSE ITEMS



3.3.2 COMPARISON OF AVERAGE INCOME AND EXPENSE ITEMS FOR THE PAST 10 YEARS

2009	2010	2011	2012	2013	2014	2015	2016	2017		2018
									INCOME	
4,368	5,067	5,659	5,509	5,502	5,270	7,071	6,743	5,988	Cotton proceeds - Lint	7,334
1,081	753	584	484	629	1,046	1,467	1,174	933	Cotton proceeds - Seed	782
(518)	(581)	(560)	(478)	(740)	(677)	(789)	(773)	(638)	Ginning	(742)
(40)	(37)	(36)	(40)	(49)	(41)	(54)	(50)	(45)	Levies	(48)
188	0	404	112	33	9	0	0	0	Cotton proceeds - Hail claims	0
5,079	**5,202**	**6,051**	**5,587**	**5,375**	**5,607**	**7,695**	**7,094**	**6,238**		**7,326**
									EXPENSES	
113	123	148	114	166	113	74	96	115	Cartage	127
77	152	149	125	96	142	148	184	215	Chemical application	181
59	45	50	54	51	57	58	69	71	Chemicals - Defoliants	48
154	108	112	61	66	152	140	112	156	Chemicals - Herbicides	123
160	175	146	89	58	126	174	117	241	Chemicals - Insecticides	185
79	61	12	10	8	4	10	25	9	Chemicals - Others	9
14	14	0	6	4	2	1	3	7	Chipping	5
73	81	60	71	51	61	70	63	81	Consultants	77
201	192	253	292	237	153	144	270	78	Contract picking	148
30	17	97	114	208	154	152	106	190	Contract farming and ripping	103
24	8	51	64	98	90	98	159	137	Cotton picking wrap and sundries	124
298	423	112	183	158	226	411	145	164	Depreciation	113
76	124	115	20	93	13	31	166	42	Electricity	29
422	299	353	544	453	580	485	609	432	Fertiliser	511
444	298	213	233	244	418	349	141	189	Fuel and oil	238
3	0	35	6	16	42	1	6	5	Hire of plant	2
238	204	174	125	94	90	159	107	141	Insurance	153
220	221	298	287	305	300	192	305	301	Licence fee - Bollgard	308
45	60	43	51	42	69	63	74	73	Licence fee - Roundup ready	76
37	36	17	25	14	12	14	25	15	Motor vehicle expenses	10
147	145	87	66	103	118	146	115	184	R & M - Farming plant	59
114	221	54	122	119	174	334	95	33	R & M - Pumps and earthworks	24
112	108	102	136	103	87	154	123	121	Seed	119
107	30	61	126	150	238	184	90	147	Water charges	204
453	428	274	300	269	277	338	628	193	Wages - Employees	272
114	76	20	27	27	8	12	25	11	Wages - Proprietors	8
65	24	50	39	70	29	33	27	29	Administration	44
189	118	51	234	68	31	87	38	67	Other farm overheads	78
4,068	**3,791**	**3,137**	**3,524**	**3,371**	**3,766**	**4,062**	**3,923**	**3,447**		**3,378**
1,011	**1,411**	**2,914**	**2,063**	**2,004**	**1,841**	**3,633**	**3,171**	**2,791**	**OPERATING PROFIT/(LOSS)**	**3,948**
									ADD:	
114	76	20	27	27	8	12	25	11	Wages - Proprietors	8
1,125	**1,487**	**2,934**	**2,090**	**2,031**	**1,849**	**3,645**	**3,196**	**2,802**	**FARM OPERATING PROFIT/(LOSS)**	**3,956**

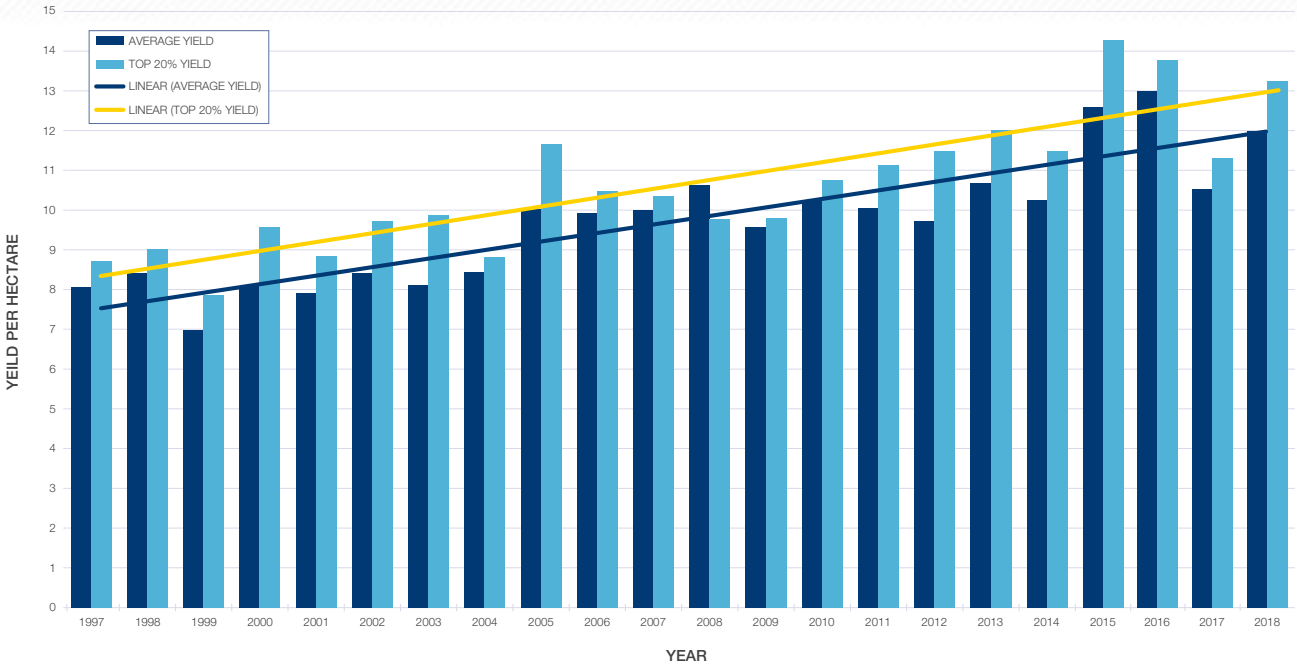
3.3.2 COMPARISON OF AVERAGE INCOME AND EXPENSE ITEMS FOR THE PAST 10 YEARS (continued)

2009	2010	2011	2012	2013	2014	2015	2016	2017		2018
									DEDUCT:	
872	797	185	353	496	306	257	37	210	Interest and bank charges	135
0	0	0	0	0	0	0	0	0	Interest - Crop terms	0
872	**797**	**185**	**353**	**496**	**306**	**257**	**37**	**210**		**135**
$253	**$690**	**$2,749**	**$1,737**	**$1,535**	**$1,543**	**$3,388**	**$3,159**	**$2,592**	**FARM NET PROFIT/(LOSS)**	**$3,821**
									CROP RESULTS	
556.97	789.00	1,124.75	1,186.93	833.94	2,365.17	997.79	838.00	1,211.00	Hectares of cotton grown	1,076.93
5,451.00	8,480.00	12,506.75	13,596.12	9,999.47	27,308.14	14,283.13	11,473.66	13,749.49	Total yield (bales)	14,351.33
9.79	10.75	11.12	11.45	11.99	11.55	14.31	13.69	11.35	Yield per hectare (bales)	13.33
$499.72	$484.00	$507.94	$477.90	$445.47	$484.87	$537.62	$518.14	$549.34	Value per bale	$549.73
$415.45	$352.51	$282.04	$307.69	$281.13	$326.34	$283.59	$286.43	$303.47	Cost of production per bale	$253.50
$103.46	$131.48	$262.27	$180.02	$167.08	$159.32	$254.03	$231.70	$245.87	Operating profit per bale	$296.23
8.14	7.83	6.17	7.37	7.57	7.77	7.55	7.57	6.27	No. of bales per hectare required to cover operating expenses	6.15
9.88	9.47	6.54	8.12	8.68	8.40	8.03	7.64	6.65	No. of bales per hectare required to cover total expenses	6.39

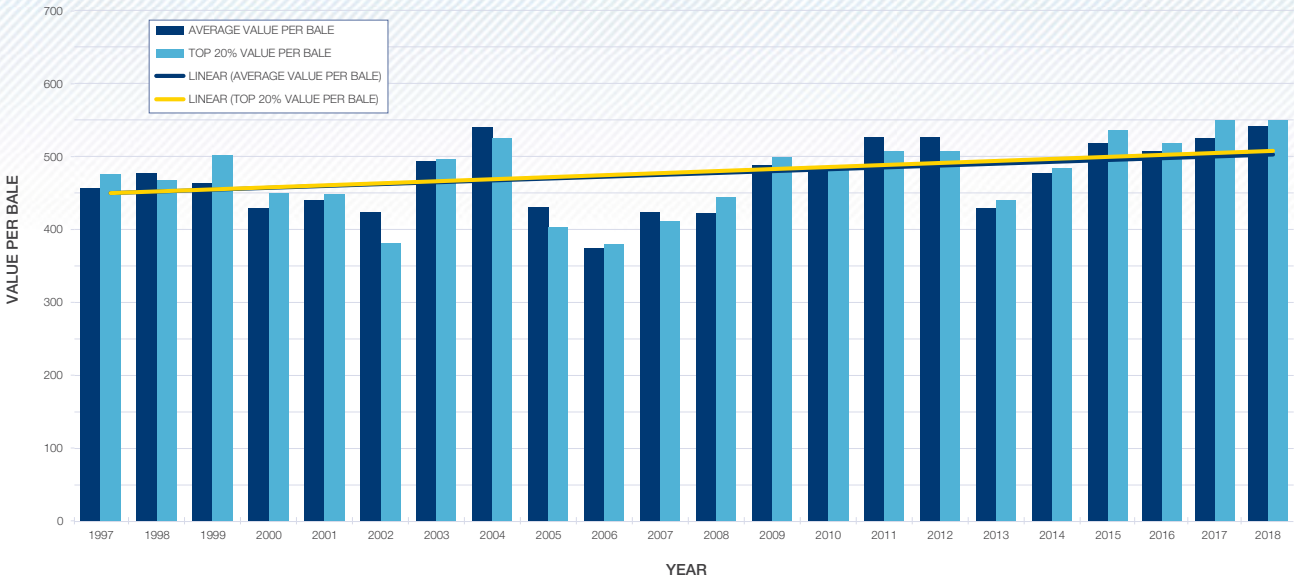
3.4 TOP 20% FARMERS VERSUS AVERAGE FARMERS PER HECTARE

3.4.1 GRAPHS

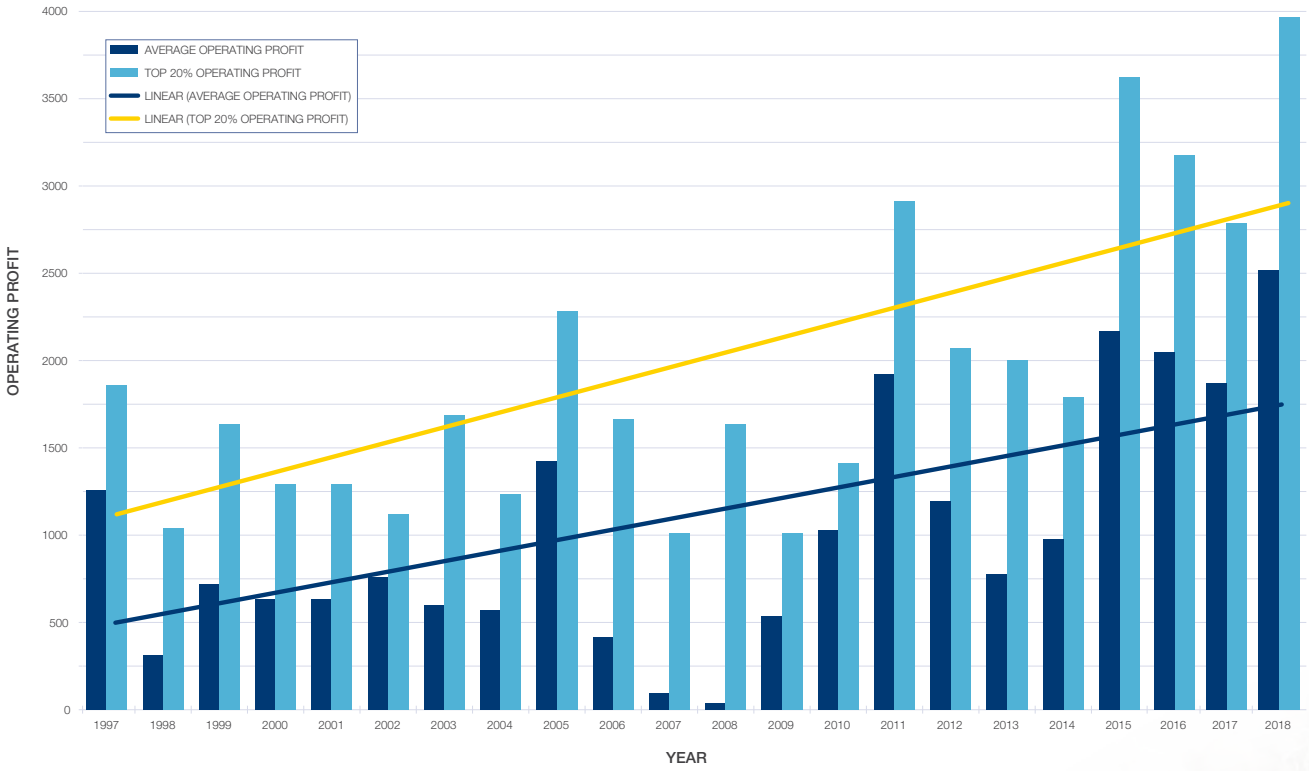
3.4.1.1 COMPARISON OF YIELD



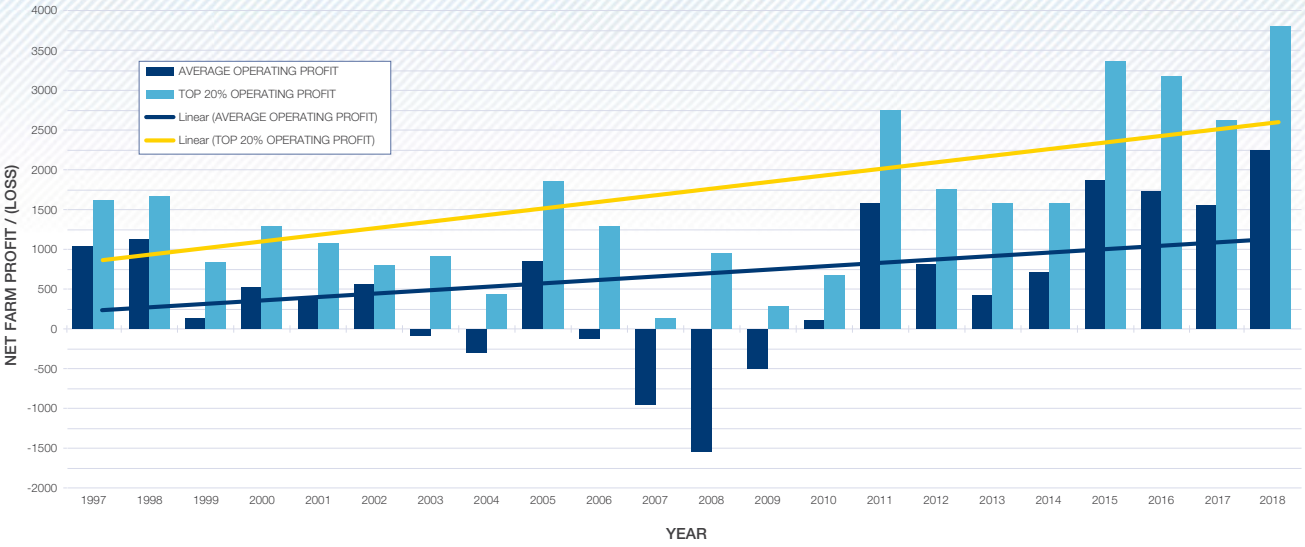
3.4.1.2 COMPARISON OF VALUE PER BALE



3.4.1.3 COMPARISON OF OPERATING PROFIT



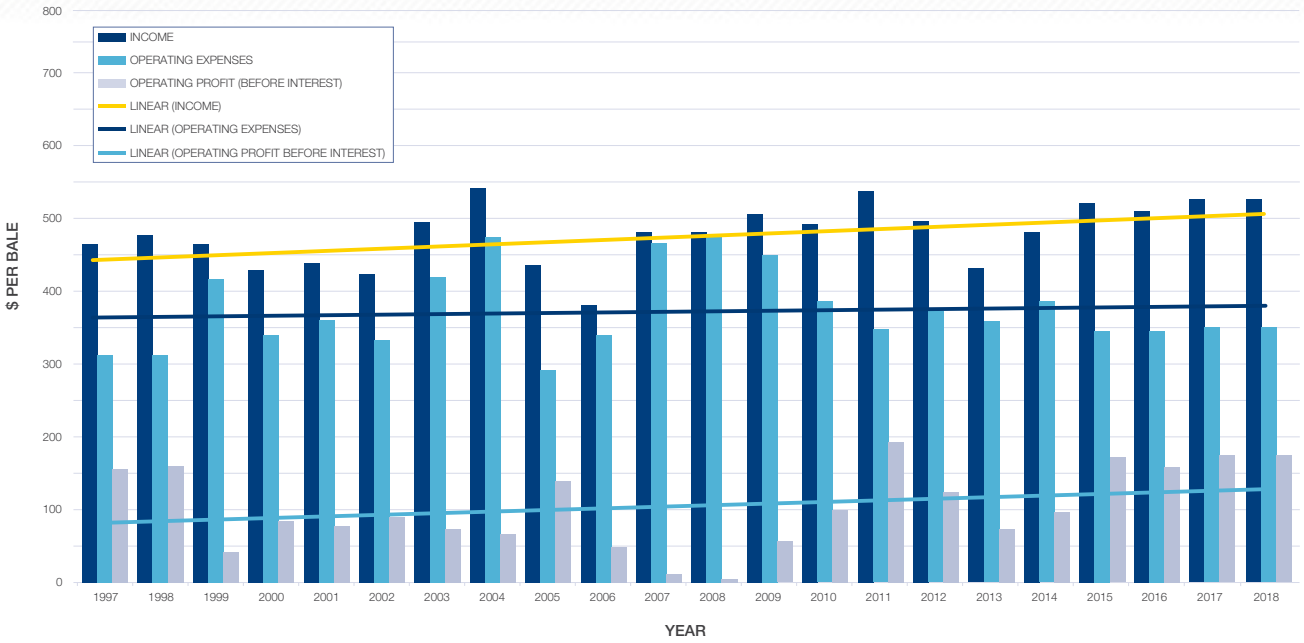
3.4.1.4 COMPARISON OF NET FARM PROFIT/(LOSS)



3.5 PER BALE FIGURES

3.5.1 GRAPH

3.5.1.1 COMPARISON OF AVERAGE INCOME AND EXPENSE ITEMS



3.5.2 COMPARISON OF AVERAGE INCOME AND EXPENSE ITEMS FOR THE PAST 10 YEARS

2009	2010	2011	2012	2013	2014	2015	2016	2017		2018
									INCOME	
445	464	523	501	441	460	487	495	511	Cotton proceeds - Lint	544
98	72	54	41	49	79	94	79	79	Cotton proceeds - Seed	71
(52)	(53)	(48)	(53)	(59)	(61)	(59)	(60)	(60)	Ginning	(60)
(4)	(3)	(3)	(3)	(3)	(4)	(4)	(4)	(4)	Levies	(4)
18	8	11	7	2	6	1	0	0	Cotton proceeds - Hail claims	1
505	**488**	**537**	**494**	**429**	**479**	**518**	**511**	**526**		**552**
									EXPENSES	
10	11	14	12	12	8	8	9	10	Cartage	11
9	13	14	13	10	15	12	13	17	Chemical application	12
8	6	5	5	4	5	5	4	6	Chemicals - Defoliants	4
18	11	11	9	8	11	9	13	13	Chemicals - Herbicides	9
15	15	14	9	3	8	9	12	15	Chemicals - Insecticides	11
5	4	1	1	0	0	0	1	1	Chemicals - Others	1
3	1	0	0	0	0	0	1	0	Chipping	0
8	7	6	6	5	4	4	5	6	Consultants	5
27	25	28	25	16	18	12	13	15	Contract picking	14
4	2	12	17	20	10	8	10	15	Contract farming and ripping	13
1	1	5	9	7	7	8	10	10	Cotton picking wrap and sundries	8
39	42	16	18	21	24	28	25	23	Depreciation	20
6	8	8	3	4	5	8	7	7	Electricity	5
45	39	39	53	51	52	38	42	40	Fertiliser	39
34	30	26	28	38	37	30	26	26	Fuel and oil	28
0	1	2	4	3	5	3	2	1	Hire of plant	1
23	17	16	13	10	10	9	10	13	Insurance	10
23	25	28	30	29	30	21	23	28	Licence fee - Bollgard	27
5	6	6	6	4	7	5	5	7	Licence fee - Roundup ready	7
4	3	2	2	2	2	2	2	3	Motor vehicle expenses	2
14	15	12	11	12	11	13	14	19	R & M - Farming plant	16
12	18	6	9	12	16	17	14	11	R & M - Pumps and earthworks	10
11	12	11	15	10	8	11	9	13	Seed	11
51	18	13	15	15	30	27	25	26	Water charges	41
41	37	36	35	36	38	41	39	26	Wages - Employees	28
11	7	2	2	3	2	2	4	11	Wages - Proprietors	9
6	3	5	5	5	5	7	5	6	Administration	8
16	10	6	16	16	14	7	9	12	Other farm overheads	16
449	**388**	**346**	**371**	**356**	**382**	**347**	**355**	**381**		**366**
56	**100**	**191**	**123**	**73**	**96**	**172**	**156**	**145**	**OPERATING PROFIT/(LOSS)**	**186**
									ADD:	
11	7	2	2	3	2	2	4	11	Wages - Proprietors	9
67	**107**	**193**	**125**	**76**	**98**	**174**	**160**	**156**	**FARM OPERATING PROFIT/ (LOSS)**	**196**

3.5.2 COMPARISON OF AVERAGE INCOME AND EXPENSE ITEMS FOR THE PAST 10 YEARS (continued)

2009	2010	2011	2012	2013	2014	2015	2016	2017		2018
									DEDUCT:	
119	98	38	42	36	29	23	31	36	Interest and bank charges	39
0	0	0	0	1	0	0	0	0	Interest - Crop terms	0
119	**98**	**38**	**42**	**37**	**29**	**23**	**31**	**36**		**39**
($52)	**$8**	**$155**	**$83**	**$38**	**$69**	**$151**	**$129**	**$120**	**FARM NET PROFIT/(LOSS)**	**$157**
									CROP RESULTS	
486.65	621.17	1,426.48	1,675.67	1,517.64	1,593.12	926.11	878.11	1,206.53	Hectares of cotton grown	1,140.69
4,660.90	6,363.40	14,325.75	16,272.11	16,223.03	16,320.98	11,660.33	11,368.18	12,773.17	Total yield (bales)	13,484.45
9.58	10.24	10.04	9.71	10.69	10.24	12.59	12.95	10.59	Yield per hectare (bales)	11.82
$487.41	$480.56	$526.23	$486.42	$427.44	$473.05	$517.48	$507.15	$526.66	Value per bale	$541.77
$449.40	$388.37	$345.82	$370.77	$356.27	$382.31	$346.53	$347.51	$351.48	Cost of production per bale	$329.73
$55.70	$99.94	$190.92	$122.89	$72.75	$96.31	$171.72	$159.68	$175.23	Operating profit per bale	$212.36
8.83	8.28	6.60	7.40	8.91	8.28	8.43	8.87	7.07	Number of bales per hectare required to cover operating expenses	7.19
11.16	10.38	7.32	8.24	9.85	8.90	8.99	9.63	7.68	Number of bales per hectare required to cover total expenses	7.77

3.5.3 COMPARISON OF TOP 20% FARMERS AND AVERAGE FARMERS FOR THE PAST FIVE YEARS (2014, 2015, 2016, 2017,2018)

	ALL FARMS AVERAGE	TOP 20% AVERAGE	DIFFERENCE
INCOME			
Cotton proceeds - Lint	5,807	6,481	674
Cotton proceeds - Seed	909	1,080	172
Ginning	(687)	(724)	(37)
Levies	(47)	(48)	(1)
Cotton proceeds - Hail claims	14	2	(12)
	5,996	**6,792**	**796**
EXPENSES			
Cartage	95	105	(10)
Chemical application	163	174	(11)
Chemicals - Defoliants	53	61	(7)
Chemicals - Herbicides	125	137	(11)
Chemicals - Insecticides	129	169	(39)
Chemicals - Others	7	11	(4)
Chipping	3	4	(1)
Consultants	55	70	(15)
Contract picking	148	159	(10)
Contract farming and ripping	130	141	(11)
Cotton picking wrap and sundries	106	122	(16)
Depreciation	264	212	52
Electricity	73	56	16
Fertiliser	508	523	(16)
Fuel and oil	317	267	50
Hire of plant	31	11	20
Insurance	110	130	(20)
Licence fee - Bollgard	298	281	17
Licence fee - Roundup ready	70	71	(1)
Motor vehicle expenses	22	15	6
R & M - Farming plant	159	124	34
R & M - Pumps and earthworks	148	132	16
Seed	119	121	(2)
Water charges	313	173	140
Wages - Employees	429	342	87
Wages - Proprietors	26	13	13
Administration	61	32	29
Other farm overheads	118	60	58
	4,080	**3,715**	**365**
OPERATING PROFIT/(LOSS)	**1,916**	**3,077**	**1,161**
ADD:			
Wages - Proprietors	26	13	(13)
FARM OPERATING PROFIT/(LOSS)	**1,941**	**3,090**	**1,148**

3.5.3 COMPARISON OF TOP 20% FARMERS AND AVERAGE FARMERS FOR THE PAST FIVE YEARS (2014, 2015, 2016, 2017,2018) (continued)

	ALL FARMS AVERAGE	TOP 20% AVERAGE	DIFFERENCE
DEDUCT:			
Interest and bank charges	320	189	131
Interest - Crop terms	0	0	0
	320	**189**	**131**
FARM NET PROFIT/(LOSS)	**$1,621**	**$2,901**	**$1,279**
CROP RESULTS			
Hectares of cotton grown	1,148.91	1,297.78	148.86
Total yield (bales)	13,121.42	16,233.15	3,111.73
Yield per hectare (bales)	11.64	12.85	1.21
Value per bale	$513.22	$527.94	$14.72
Cost of production per bale	$351.51	$290.67	$60.85
Operating profit per bale	$163.06	$237.43	$74.37
Number of bales per hectare required to cover operating expenses	7.97	7.06	0.91
Number of bales per hectare required to cover total expenses	8.59	7.42	1.17

3.6 LOW COST FARMERS

3.6.1 COMPARISON OF AVERAGE INCOME AND EXPENSE ITEMS FOR THE PAST 10 YEARS

2009	2010	2011	2012	2013	2014	2015	2016	2017		2018
									INCOME	
4,769	4,268	4,508	4,749	4,313	4,444	5,699	5,637	4,978	Cotton proceeds - Lint	6,410
1,078	718	440	382	302	746	1,156	941	736	Cotton proceeds - Seed	719
(520)	(498)	(445)	(561)	(523)	(604)	(710)	(659)	(582)	Ginning	(682)
(46)	(30)	(29)	(31)	(28)	(51)	(56)	(47)	(36)	Levies	(43)
0	0	350	9	27	4	7	1	0	Cotton proceeds - Hail claims	0
5,281	**4,458**	**4,824**	**4,548**	**4,091**	**4,539**	**6,096**	**5,873**	**5,096**		**6,404**
									EXPENSES	
171	91	122	88	121	100	109	127	59	Cartage	69
144	123	129	116	80	132	140	170	156	Chemical application	166
60	79	69	58	49	48	58	52	64	Chemicals - Defoliants	44
193	89	108	69	66	99	101	97	127	Chemicals - Herbicides	101
26	140	80	61	47	74	109	88	106	Chemicals - Insecticides	151
4	5	11	10	5	3	5	17	9	Chemicals - Others	7
11	14	0	2	0	1	1	0	2	Chipping	3
64	62	57	38	35	44	16	68	48	Consultants	55
339	361	258	295	90	246	169	257	107	Contract picking	113
23	29	64	130	380	102	33	309	191	Contract farming and ripping	110
38	3	43	61	72	61	90	99	94	Cotton picking wrap and sundries	110
191	332	141	179	207	189	269	122	216	Depreciation	153
29	7	66	33	29	21	37	89	16	Electricity	18
174	518	296	448	410	505	444	493	397	Fertiliser	440
272	347	201	202	299	337	284	197	224	Fuel and oil	218
1	3	11	52	67	70	21	17	8	Hire of plant	2
228	148	141	119	45	104	87	78	111	Insurance	118
310	308	315	281	175	317	277	294	299	Licence fee - Bollgard	272
60	53	55	53	29	67	66	73	72	Licence fee - Roundup ready	77
33	33	18	15	28	15	18	13	16	Motor vehicle expenses	9
110	147	77	80	60	115	84	119	155	R & M - Farming plant	95
86	88	58	49	51	79	124	53	81	R & M - Pumps and earthworks	41
114	160	101	165	104	75	133	105	111	Seed	106
26	13	144	181	192	308	303	271	165	Water charges	160
659	286	285	287	193	319	525	411	275	Wages - Employees	306
0	49	7	22	33	13	8	18	17	Wages - Proprietors	18
66	43	38	48	42	56	55	17	47	Administration	42
80	43	65	38	97	62	77	39	90	Other farm overheads	58
3,512	**3,574**	**2,960**	**3,180**	**3,006**	**3,562**	**3,643**	**3,693**	**3,263**		**3,062**
1,769	**884**	**1,864**	**1,368**	**1,085**	**977**	**2,453**	**2,180**	**1,833**	**OPERATING PROFIT/(LOSS)**	**3,342**
									ADD:	
0	49	7	22	33	13	8	18	17	Wages - Proprietors	18
1,769	**933**	**1,871**	**1,390**	**1,118**	**990**	**2,461**	**2,198**	**1,850**	**FARM OPERATING PROFIT/ (LOSS)**	**3,360**

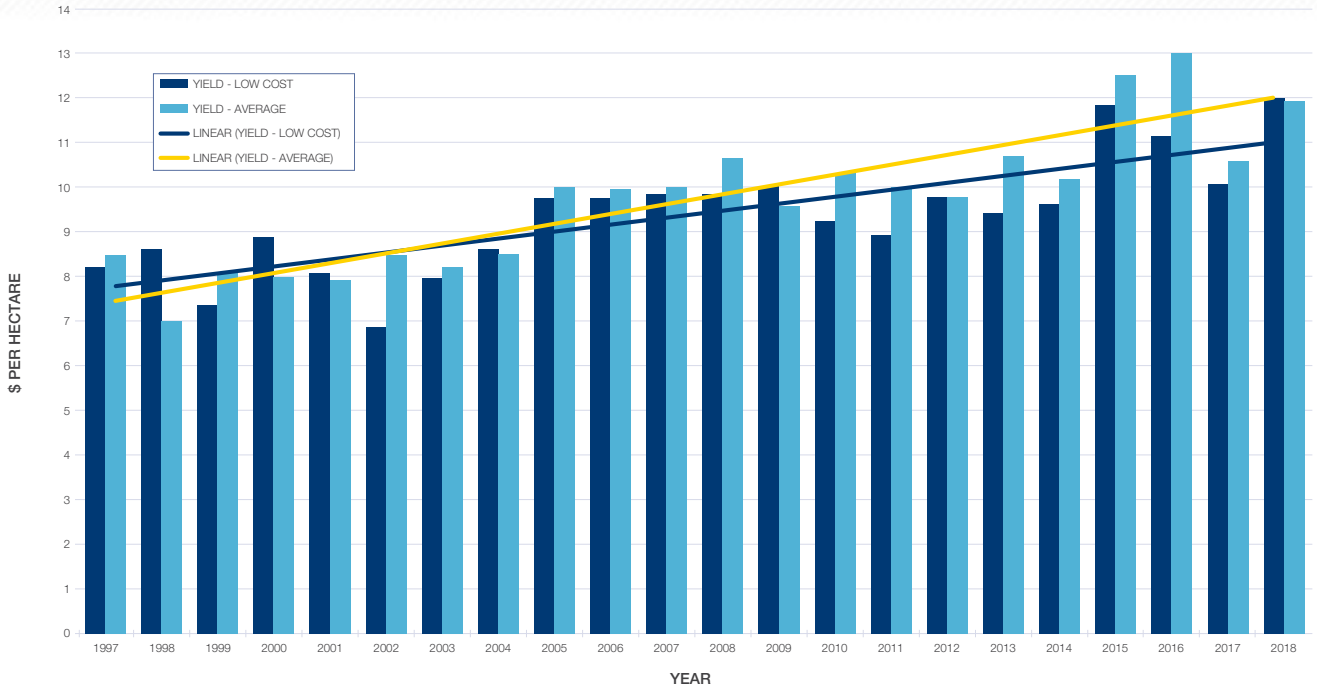
3.6.1 COMPARISON OF AVERAGE INCOME AND EXPENSE ITEMS FOR THE PAST 10 YEARS (continued)

2009	2010	2011	2012	2013	2014	2015	2016	2017		2018
									DEDUCT:	
76	1,418	333	345	543	357	194	201	329	Interest and bank charges	177
0	0	0	0	65	0	0	0	2	Interest - Crop terms	0
76	1,418	333	345	608	357	194	201	331		177
$1,693	**($485)**	**$1,538**	**$1,045**	**$510**	**$633**	**$2,267**	**$1,997**	**$1,519**	**FARM NET PROFIT/(LOSS)**	**$3,183**
									CROP RESULTS	
568	713	1,276	1,532	1,014	1,934	1,242	1,405.92	2,189.59	Hectares of cotton grown	1,924.05
5,676.00	6,535.00	11,428.00	14,857.26	9,539.47	18,683.35	14,707.30	15,717.14	22,058.47	Total yield (bales)	22,778.59
9.99	9.17	8.95	9.70	9.41	9.66	11.84	11.18	10.07	Yield per hectare (bales)	11.84
$528.61	$486.02	$499.65	$468.02	$431.96	$469.31	$514.36	$525.31	$505.76	Value per bale	$540.84
$351.21	$389.29	$330.42	$327.83	$319.61	$368.46	$307.83	$330.34	$324.06	Cost of production per bale	$258.58
$177.40	$96.73	$208.27	$141.11	$115.23	$101.28	$207.08	$195.11	$181.70	Operating profit per bale	$282.26
6.64	7.35	5.92	6.79	6.96	7.58	7.09	7.03	6.45	Number of bales per hectare required to cover operating expenses	5.66
6.78	10.26	6.59	7.53	8.37	8.35	7.46	7.41	7.11	Number of bales per hectare required to cover total expenses	5.99

3.7 LOW COST FARMERS VERSUS AVERAGE FARMERS

3.7.1 GRAPH

3.7.1.1 COMPARISON OF YIELD



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Appendices

APPENDIX A

DEFINITION OF TERMS

TOP 20% AND BOTTOM 20% (AVERAGE)

These figures represent the average results of those farmers who achieved the highest and lowest farm operating profit (after using an average cotton price for all growers).

BEST "LOW COST" FARMERS

These figures represent the average results of those farmers who had the lowest farm operating expenses (before interest).

LARGE GROWERS

These figures represent the average results of those farmers who grew more than 2,000 hectares.

COMBINED AVERAGE OF FIVE YEARS TO 2018

These figures represent the average of the annual results of farmers in each category of the comparative analysis, over a five year period. We have also analysed the combined average of the Top 20% Farmers for comparative purposes.

LABOUR

These figures include all permanent employees or equivalent casuals (two casuals employed for three months each would represent half of a permanent employee). Proprietors have been excluded.

AVAILABLE TRACTOR HORSE POWER (ENGINE)

Includes all field tractors used for ripping, listing, spraying and cultivating, but excludes tractors used to operate module builders.

AVAILABLE PICKING CAPACITY

Only includes pickers owned by the farmer.

ROTATION

The portion of the current year's crop grown on fields fallowed in the previous year, or developed over the past four years, expressed as a percentage.

WATER USAGE

Includes the total megalitres of irrigation water used to grow the crop as well as the impact of beneficial rain. Rainfall figures during the growing season have been converted to megalitres after excluding light falls and a portion of falls over 100 mm per month.

APPENDIX B

GUIDE TO INCOME AND EXPENSE ALLOCATIONS

COTTON PROCEEDS

Cotton Proceeds – Lint is net of premiums and discounts.

For farmers who received hail insurance claims, the amount received has been shown separately in the analysis. Where possible the hail claim has been grossed up to reflect the bales lost due to hail and the costs saved or additional costs incurred have been added or subtracted to reflect comparable figures.

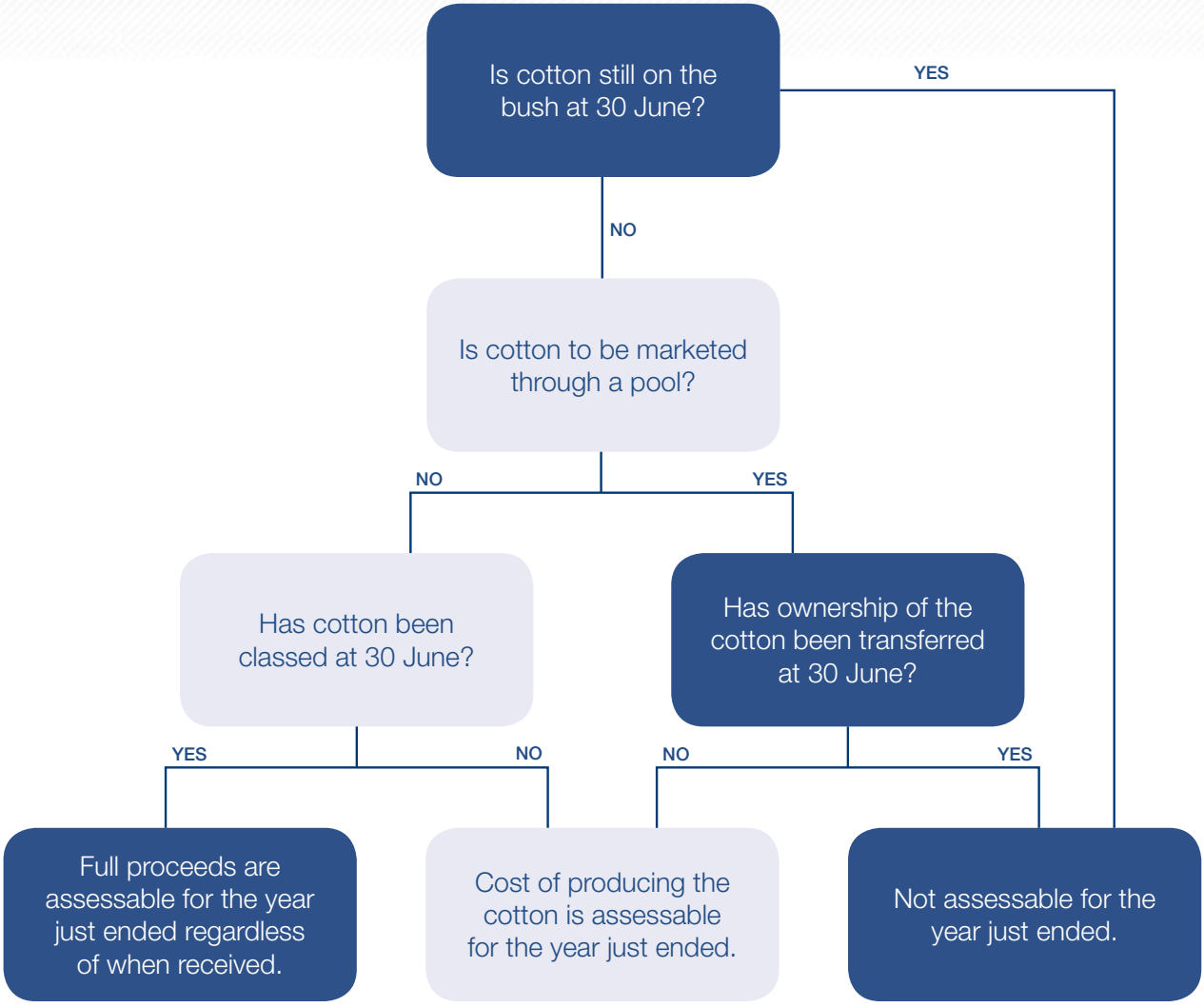
EXPENSES

Cartage	cartage (cotton module cartage, general cartage)
Chemical application	application by aircraft, application by ground rig
Chemicals – Defoliants	all defoliants and conditioners
Chemicals – Herbicides	herbicides used in field and on ditches, channels etc.
Chemicals – Insecticides	all insecticides
Chemicals – Other	growth regulants (pix) and all other chemicals
Chipping	chipping (chipping contractors, chipping wages), row weeders
Consultants	consultants (external and internal agronomist, bug checkers, marketing consultants)
Contract picking	contract picking (net of contract picking income on a swap basis, ie. hectare for hectare)
Contract farming and ripping	contract farming, contract ripping, contract stalk pulling, stick picking
Cotton wrap and picking sundries	cotton wrap and sundries (tarps and ropes, repairs to tarps)
Depreciation	depreciation
Electricity	electricity (electricity for bores, general electricity)
Fertiliser	fertiliser, gypsum
Fuel and oil	fuel and oil (net of diesel fuel rebate)
Hire of plant	hire of plant
Insurance	crop insurance, general insurance
Licence fee – Bollgard	licence fees paid to Monsanto for the Bollgard licence
Licence fee – Roundup Ready	licence fees paid to Monsanto for the Roundup Ready licence
Motor vehicle expenses	motor vehicle expenses (registration, motor vehicle insurance, R & M motor vehicle)

R & M – Farming plant	R & M pickers, R & M plant, R & M tractors, R & M small tools and hardware, R & M motor bikes
R & M – Pumps and earthworks	R & M irrigation earthworks, R & M irrigation pumps and motors
Seed	seed
Water charges and purchases	water charges (charges from a state body, charges from a local water scheme, water purchases and temporary transfer water purchases
Wages – Employees	external wages (excluding chipping), payroll tax, secretarial fees, superannuation, workers compensation insurance, FBT
Wages – Proprietors	wages paid to a proprietor. If no wage is paid a notional amount, based on their involvement in the operation, has been included for each working proprietor. If the farm has more than one enterprise, the proprietors wage is split in accordance with normal allocation criteria
Administration	accountancy (all general work), administration, advertising, computer costs, computer processing, entertainment, filing fees, licences permits and fees, medical supplies, newspapers and periodicals, printing stationery and postage, protective clothing, seminars and conferences, staff amenities, staff training, subscriptions and donations, telephone, travel and accommodation
Other farm overheads	special accountancy work, audit, legal, rates, rent, R & M homestead, R & M employees' houses, R & M farm buildings, R & M fences, shade and shelter trees
Interest and bank charges	bank charges, borrowing expenses, bank interest, leasing, and hire purchase interest charges
Interest – Crop terms	interest on crop term finance (chemical suppliers and cotton merchants etc)

APPENDIX C

CHART OF ASSESSABILITY OF COTTON PROCEEDS



Notes:

- The guaranteed minimum price of a GMP pool is assessable as cash. The balance is treated as a pool.
- 'Cost of producing' is the cost of severing the cotton from the land plus any other costs spent directly on the lint or seed prior to 30 June of that year.

The marketing of cotton is a complex issue. The taxation treatment relies on the wording of a particular contract.

This schedule is designed to provide general advice only. If you need specific advice, please contact us. On this basis, we accept no liability for any errors or omissions.

APPENDIX D

COMMON SHAREFARMING AND LEASING ARRANGEMENTS

Below are some details of common practices.

- **Sharefarming (80% – 20% deal)**

  80% of income to the sharefarmer.
  20% of income to the landholder.

  - Sharefarmer pays all operating costs.
  - Landholder pays landholder's costs (rates) and costs to deliver water to the head ditch (pumping, water charges, and main channel maintenance).

- **Sharefarming (82% – 18% deal)**

  82% of income to the sharefarmer.
  18% of income to the landholder.

  - Sharefarmer pays all costs except rates.

- **Leasing**

  - A starting point is generally 4% – 6% of the value of the full watered developed area.

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